



SEQUENCE LISTING

Burgess et al.

<120> Novel Proteins and Nucleic Acids Encoding Same

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<140> 09/939,853

<141> 2001-08-27

<150> 60/228,191

<151> 2000-08-25

<150> 60/267,300

<151> 2001-02-08

<150> 60/269, 961

<151> 2001-02-20

<150> 60/277,337

<151> 2001-03-20

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<170> PatentIn Ver. 2.1

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<213> *Homo sapiens*

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<213> Homo sapiens

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 Val Tyr Leu Cys Glu Asp Pro Ala Glu Lys Ala Ala Phe Phe Leu Asp  
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Arg Lys Glu Arg Leu Gly Thr Arg Phe Ser Ile Arg Val Ser Ala Val  
35 40 45

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Glu Asp Pro Val Cys Gly Thr Gln Leu Gln Asn Gln Asn Glu Leu Arg  
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Ala Pro Thr Ala Glu Lys Ala Ala Phe Tyr Leu Asp Ala Ala Leu Ala  
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Phe Met Ala Leu Asp Lys Lys Arg Gln Val Thr Leu Thr Asp Pro  
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Arg Thr Ala Cys Pro Pro Pro Gln Ala Ala Gln Glu Arg Ala Pro Met  
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Val Ala Ala Pro Lys Met Phe Ala Phe Asp Asn Leu Phe Thr Gly Glu  
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Asp Lys Gln Ser Asp Val Cys Ala Ser Ala Leu Ser Glu Val Ile Pro  
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Gly Ser Gly Ser Ala Ser Gly Ser Gly Val Ala Cys Ser Leu Gly Ala  
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Ala Pro Cys Ala Ile Ala Trp Leu Tyr Lys Gly Ile Gln Glu Arg Arg  
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Gln Lys Ser Gly Ala Arg Phe Ser Val Arg Val Ser Ala Val Gly Val  
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Ser Ala Thr Lys Pro Asp Ala Leu Ser Gln Asp Leu Leu Ile Ser His  
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Ala Ala Glu Tyr Gly Val Tyr Ser His Ile Lys Pro Asn Ala Leu Phe  
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Ile His Ser Pro Leu Leu Phe Phe Trp Ser Gln Tyr Trp Asn Ser Gly  
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Ser Asp Tyr Gly Tyr Thr Glu Ser Asp Asp Ser Pro Gly Ile Tyr Leu  
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<213> *Caenorhabditis elegans*

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Gly Lys Asn Tyr Ser Lys Thr Thr Phe Asp His Ile Phe Arg Thr Asp  
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Ala Thr Gln Asp Asp Met Tyr Thr Ala Phe Leu Ser Asp Thr Ile Asn  
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Ser Val Phe Ala Gly Asn Asp Ala Thr Val Leu Ala Met Gly Ala Lys  
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Thr Asn Gly Lys Asp Glu Arg Leu Tyr Gly Asn Ser Val Ser Arg Asn  
100 105 110

Gly Leu Val Gln Met Ala Ile Thr Gln Leu Met Asn Ala Leu Asp Asp  
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Asn Lys Asp Ser Glu Glu Arg Ile Gln Val Arg Met Ser Ala Ile Met  
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Val Ser Gln Asn Glu Ser Ser Ile Val Asp Leu Leu Ser Pro Phe Asn  
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Pro Asp Pro Arg His Arg Val Val Lys Ile Val Asp Asp Ala Arg Thr  
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Gly Val Phe Ile Asp Asn Glu Ser Glu Ile Arg Val Glu Thr Ile Asp  
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Gln Ala Leu Phe Tyr Leu Asn Thr Ala Val Asp His Arg Met Ile Gln  
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Asp Glu His Thr His Arg Thr Ser His Val Phe Ile Ser Leu Ser Leu  
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Tyr Ser Tyr Lys Met Gly Asp Lys Met Gln Gly Gly Arg Arg Arg Leu  
225 230 235 240

Cys Phe Leu Asp Met Gly Ile Gly Glu Arg Asn Ser Thr Asn Gly Gly  
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Met Thr Met Pro Ala Leu Gly Ser Ile Leu Leu Ala Met Val Gln Arg  
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Asn Lys His Ile Pro Ser Arg Asp Ser Ser Val Cys Gln Leu Ile Arg  
275 280 285

Cys Ala Leu Ser Thr Ser Arg Phe Thr Thr Phe Val Phe Ser Phe Gly  
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Ala Lys Ser Asp Asp Asn Glu Asn Ile Ala His Leu Ala Cys Lys Ile  
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Thr Thr Thr Ile Thr Pro Gly  
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<213> Ciona intestinalis

<400> 13

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35 40 45

Ala Ser Val Arg His Asn Arg Asn Ser Ala Ser Asp Glu Glu Asn Asp  
50 55 60

Gly Asp Ser Gly Cys Ala Leu Glu Glu Tyr Ala Trp Val Pro Pro Asn  
65 70 75 80

Leu Thr Pro Asp Gln Val Arg Tyr Tyr Phe Thr Ser Leu Pro Glu Asp  
85 90 95

Lys Val Pro Leu Val Asp Ser Ile Gly Asp Lys Tyr Arg Val Arg Gln  
100 105 110

Leu Leu His Gln Leu Pro Pro His Asp Asp Lys Val Cys Tyr Cys Asn  
115 120 125

Asp Leu Ser Asp Glu Glu Lys Arg Glu Leu Arg Leu Phe Ser Glu Gln  
130 135 140

Arg Lys Lys Asp Tyr Leu Gly Cys Gly Lys Ile Arg Ile Leu Pro Leu  
145 150 155 160

Asn Thr Pro Gly Thr Pro Cys Ser Glu Cys Gly Ile Leu Val Lys Gly  
165 170 175

Gly Asp Ile Val Ala Val Ala Ser Arg Ala Glu Pro Gly Met Cys Trp  
180 185 190

His Pro Ala Cys Phe Val Cys Ser Val Cys Arg Glu Leu Leu Val Asp  
195 200 205

Leu Phe Tyr Phe Tyr Gln Asp Gly Arg Leu Tyr Cys Gly Arg His His  
210 215 220

Ala Glu Thr Leu Lys Pro Arg Cys Ser Ala Cys Asp Glu Ile Ile Phe  
225 230 235 240

Ser Asp Glu Cys Thr Glu Ala Glu Gly Arg His Trp His Met Asp His  
245 250 255

Phe Cys Cys Phe Glu Cys Asp Gln Val Leu Gly Gly Gln Arg Tyr Ile  
260 265 270

Met Arg Asp Gly Lys Pro Asn Cys Thr Gln Cys Phe Glu Ala Leu Tyr  
275 280 285

Ala Glu Tyr Cys Asp Met Cys Gly Asp Leu Ile Gly Leu Asp Ala Gly  
 290 295 300  
 Gln Met Gln Tyr Glu Gly Gln His Trp His Ala Thr Asp Asn Cys Phe  
 305 310 315 320  
 Cys Cys Asn Arg Cys Arg Lys Ser Leu Leu Gly Arg Pro Phe Leu Pro  
 325 330 335  
 Lys His Gly Arg Ile Phe Cys Ser Lys Ala Cys Ser Leu Gly Glu Asp  
 340 345 350  
 Pro Gly His Ser Glu Ser Asp Ser Gln His Ser Ser Ser Gln Tyr Glu  
 355 360 365  
 Asn Pro Gln Leu Pro Thr Ser His Asn Val Arg Arg Ser Leu Asn Leu  
 370 375 380  
 Asp Asn Leu Ser Ile His Asp Lys Pro Trp Glu Asp Lys Gly Glu Leu  
 385 390 395 400  
 Ser Pro Ala Ser Asn Asn Val Phe Ile Asp Ala Ala Asp Met Tyr Pro  
 405 410 415  
 Thr Ser Ala Ala Val Ala Ala Ser Thr Arg Tyr Ser Lys Gly His Thr  
 420 425 430  
 Arg Pro Ser His Pro Tyr Leu Asp Gly Met Asp Pro Val Asn Ala Glu  
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 Met Val Thr Glu Asn Asp Ala Gly Phe Lys Gly Ala Ala Thr Ser Arg  
 450 455 460  
 Lys Thr Val Thr Asp Ser Val Thr Ser Pro Thr Ser Thr Val Ser Ser  
 465 470 475 480  
 Arg Thr Thr Ser Lys Asn Gly Val Gln Phe Pro Gln Asn Thr Tyr Asn  
 485 490 495  
 Ser Thr Asp Ser Ser Gly Tyr Asn Ser Ser Ser Thr Leu Asp Ala Ile  
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 Glu His Gln Gln Asn Ala Ala Leu Lys Ala Ala Met Gly Ser Asn Tyr  
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 Ser Tyr Gly Lys Ser Lys Gln Thr Pro Cys Ser Lys Arg Pro Gln Asn  
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 Gly Glu Asp Gly His Val Ser Ala Thr Glu Phe Thr Pro Phe His Pro  
 545 550 555 560  
 Ala Ala Pro Arg Ala Ser Pro Pro Thr Ile Ile Gly Ser Arg Lys Leu  
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 Ala Pro Glu Ile Lys Lys Thr Ile Asp Ser Leu Thr Lys Ala Thr Glu  
 580 585 590

Ile Asp Asn Lys Ser Pro Pro Val Asn Val Ala Ser Met Leu Pro Lys  
 595 600 605  
 Ser Ala Val Pro Ile Pro Ala Pro Arg Ala Arg Tyr Ala Pro Ser Leu  
 610 615 620  
 Thr Pro Ser Pro Pro Ser Thr Ala Ala Ser Glu Leu Thr Ser Pro Trp  
 625 630 635 640  
 Met His Lys Ser His Ala Arg Thr Asp Ser Pro Pro Asp Ser Arg Glu  
 645 650 655  
 Phe Pro Ser Pro Pro Val Pro Val Arg Ser Pro Pro Thr Glu Ser Lys  
 660 665 670  
 Glu His Ser Ser Pro Leu Gln Arg Ser Val Ser Glu Arg Leu Ala Asn  
 675 680 685  
 Lys Arg Arg Ser Arg Glu Pro Ile Ser Leu Pro Glu Gln Thr Ile Ser  
 690 695 700  
 Glu His Pro Arg Leu Arg Ser Asp Asp Lys His Val Ser Val Glu Asn  
 705 710 715 720  
 Asp Lys Thr Ser Pro Glu Leu Lys Ser Ile Leu Lys Lys Ser Arg Asn  
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 Pro Ser Lys Ser Phe Arg Asn Arg Glu Arg Gly Ser Leu Ser Gly Ser  
 740 745 750  
 Leu Asp Arg Leu Glu Glu Phe His Arg Lys Ser Asp Val Met Lys Tyr  
 755 760 765  
 Ala Ser Asp Asp Glu Asp Gly Ala Gly Phe Gly Asp Ala Gln Gly Asp  
 770 775 780  
 Phe Ser Ser Phe Gln Arg Gly Gln Arg Leu Tyr Ser Ser Ala Arg Phe  
 785 790 795 800  
 Pro Glu Glu Val Thr Glu Lys Pro Arg Ser Gln Asn Gln Gly Arg  
 805 810 815  
 Pro Arg Ser Gln His Arg Thr Arg Phe Lys Asp Asn Ser Ala Leu Asp  
 820 825 830  
 Arg Thr His Ser Ala Leu Asn Leu Asp Glu Leu Asp Cys Ala Ile Ala  
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 Arg Arg Asn Pro Lys Pro Gly Lys Thr Cys Ser Lys Leu Ser Gly Lys  
 850 855 860  
 Ser Thr Cys Ser Lys Lys Leu Lys Arg Thr Arg Ser Thr Asp Phe Ala  
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 Phe Glu Arg Ser Ala Ala Thr Pro Thr Ser Ser Arg Lys Asn Arg Arg  
 885 890 895

Thr Lys Arg Phe Val Glu Asp Glu Glu Asp Gly Trp Cys Ser Thr  
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 Cys Thr Ser Ser Asn Asp Asp Ser Asp Tyr Glu Arg Trp Asp Gly Leu  
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 Gly Thr Ser Pro Pro Thr Ser Pro Leu Ser Ala Met Arg Arg Gly Ser  
 930 935 940  
  
 Ala Pro Val Gly Val Arg Val Asn Met Thr Arg Arg Gln Pro Pro His  
 945 950 955 960  
  
 Pro Phe Leu Ala Asn Ala Asp Ser Ala Leu Ala Ala Ser Ala Ala Gly  
 965 970 975  
  
 Phe Asn Ser Asn Gly Val Tyr Arg Pro Ser Met Pro Arg Asn Phe Ser  
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 Ile Val Met  
 1010

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 Arg Gly Pro Thr Glu Asn Arg Val Arg Arg Arg Gln Ser Arg Arg Gln  
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 Ala Ser Val Arg His Asn Arg Asn Ser Ala Ser Asp Glu Glu Asn Asp  
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 Gly Asp Ser Gly Cys Ala Leu Glu Glu Tyr Ala Trp Val Pro Pro Asn  
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 Leu Thr Pro Asp Gln Val Arg Tyr Tyr Phe Thr Ser Leu Pro Glu Asp  
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 Lys Val Pro Leu Val Asp Ser Ile Gly Asp Lys Tyr Arg Val Arg Gln  
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 Leu Leu His Gln Leu Pro Pro His Asp Asp Lys Val Cys Tyr Cys Asn  
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 Asp Leu Ser Asp Glu Glu Lys Arg Glu Leu Arg Leu Phe Ser Glu Gln

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Arg Lys Lys Asp Tyr	Leu Gly Cys Gly Lys	Ile Arg Ile Leu Pro Leu	
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Asn Thr Pro Gly Thr Pro Cys Ser Glu Cys Gly	Ile Leu Val Lys Gly		
165	170	175	
Gly Asp Ile Val Ala Val Ala Ser Arg Ala Glu Pro Gly	Met Cys Trp		
180	185	190	
His Pro Ala Cys Phe Val Cys Ser Val Cys Arg Glu	Leu Leu Val Asp		
195	200	205	
Leu Phe Tyr Phe Tyr Gln Asp Gly Arg	Leu Tyr Cys Gly Arg	His His	
210	215	220	
Ala Glu Thr Leu Lys Pro Arg Cys Ser Ala Cys Asp Glu	Ile Ile Phe		
225	230	235	240
Ser Asp Glu Cys Thr Glu Ala Glu Gly Arg	His Trp His Met Asp His		
245	250	255	
Phe Cys Cys Phe Glu Cys Asp Gln Val Leu Gly Gly	Gln Arg Tyr Ile		
260	265	270	
Met Arg Asp Gly Lys Pro Asn Cys Thr Gln Cys Phe	Glu Ala Leu Tyr		
275	280	285	
Ala Glu Tyr Cys Asp Met Cys Gly Asp Leu Ile Gly	Leu Asp Ala Gly		
290	295	300	
Gln Met Gln Tyr Glu Gly Gln His Trp His Ala Thr Asp	Asn Cys Phe		
305	310	315	320
Cys Cys Asn Arg Cys Arg Lys Ser Leu Leu Gly Arg	Pro Phe Leu Pro		
325	330	335	
Lys His Gly Arg Ile Arg Cys Ser Lys Ala Cys Ser Leu	Gly Glu Asp		
340	345	350	
Pro Gly His Ser Glu Ser Asp Ser Gln His Ser Ser Ser	Gln Tyr Glu		
355	360	365	
Asn Pro Gln Leu Pro Thr Ser His Asn Val Arg Arg	Ser Leu Asn Leu		
370	375	380	
Asp Asn Leu Ser Ile His Asp Lys Pro Trp Glu Asp Lys	Gly Glu Leu		
385	390	395	400
Ser Pro Ala Ser Asn Asn Val Phe Ile Asp Ala Ala Asp	Met Tyr Pro		
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Thr Ser Ala Ala Val Ala Ala Ser Thr Arg Tyr Ser Lys	Gly His Thr		
420	425	430	
Arg Pro Ser His Pro Tyr Leu Asp Gly Met Asp Pro Val	Asn Ala Glu		

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Met Val Thr Glu Asn Asp Ala Gly Phe Lys Gly Ala Ala Thr Ser Arg		
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Lys Thr Val Thr Asn Ser Val Thr Ser Pro Thr Ser Thr Val Ser Ser		
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Arg Thr Thr Ser Lys Asn Gly Val Gln Phe Pro Gln Asn Thr Tyr Asn		
485	490	495
Ser Thr Asp Ser Ser Gly Tyr Asn Ser Ser Thr Leu Asp Ala Ile		
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Glu His Gln Gln Asn Ala Ala Leu Lys Ala Ala Met Gly Ser Asn Tyr		
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Ser Tyr Gly Lys Ser Lys Gln Thr Ser Cys Ser Lys Arg Pro Gln Asn		
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Gly Glu Asp Gly His Val Ser Ala Thr Glu Phe Thr Pro Phe His Pro		
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Ala Ala Pro Arg Ala Ser Pro Pro Thr Ile Ile Gly Ser Arg Lys Leu		
565	570	575
Ala Pro Glu Ile Lys Lys Thr Ile Asp Ser Leu Thr Lys Ala Thr Glu		
580	585	590
Ile Asp Asn Lys Ser Pro Pro Val Asn Val Ala Ser Met Leu Pro Lys		
595	600	605
Ser Ala Val Pro Ile Pro Ala Pro Arg Ala Arg Tyr Ala Pro Ser Leu		
610	615	620
Thr Pro Ser Pro Pro Ser Thr Ala Ala Ser Glu Leu Pro Ser Pro Trp		
625	630	635
640		
Met His Lys Ser His Ala Arg Thr Asp Ser Pro Pro Asp Ser Arg Glu		
645	650	655
Phe Pro Ser Pro Pro Val Pro Val Pro Ser Pro Pro Thr Glu Ser Lys		
660	665	670
Glu His Ser Ser Pro Leu Gln Arg Ser Val Ser Glu Arg Leu Ala Asn		
675	680	685
Lys Arg Arg Ser Arg Glu Pro Ile Ser Leu Pro Glu Gln Thr Ile Ser		
690	695	700
Glu His Pro Arg Leu Arg Ser Asp Asp Lys His Val Ser Val Glu Asn		
705	710	715
720		
Asp Lys Thr Ser Pro Glu Leu Lys Ser Ile Leu Lys Lys Ser Arg Asn		
725	730	735
Pro Ser Lys Ser Phe Arg Asn Arg Glu Arg Gly Ser Leu Ser Gly Ser		

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Leu Asp Arg Leu Glu Glu Phe His Arg Lys Ser Asp Val Met Lys Tyr		
755	760	765
Ala Ser Asp Asp Glu Asp Gly Ala Gly Phe Gly Asp Ala Gln Gly Asp		
770	775	780
Phe Ser Ser Phe Gln Arg Gly Gln Arg Leu Tyr Ser Ser Ala Arg Phe		
785	790	795
Pro Glu Glu Val Thr Glu Lys Pro Arg Ser Gln Asn Gln Gly Gly Arg		
805	810	815
Pro Arg Ser Gln His Arg Thr Arg Phe Lys Asp Asn Ser Ala Leu Arg		
820	825	830
Pro Asn Ala Gln Arg Ser Gln Phe Arg Glu Gln Lys Leu Glu Leu Asp		
835	840	845
Cys Ala Ile Ala Arg Arg Asn Pro Lys Pro Gly Lys Thr Cys Ser Lys		
850	855	860
Leu Ser Gly Lys Ser Thr Cys Ser Lys Lys Leu Lys Arg Thr Arg Ser		
865	870	875
Thr Asp Phe Ala Phe Glu Arg Ser Ala Ala Thr Pro Thr Ser Ser Arg		
885	890	895
Lys Asn Arg Arg Thr Lys Arg Phe Val Glu Asp Glu Glu Asp Gly		
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Trp Cys Ser Thr Cys Thr Ser Ser Ser Asp Asp Ser Asp Tyr Glu Arg		
915	920	925
Trp Asp Gly Leu Gly Thr Ser Pro Pro Thr Ser Pro Leu Ser Ala Met		
930	935	940
Arg Arg Gly Ser Ala Pro Val Gly Val Arg Val Asn Met Thr Arg Arg		
945	950	955
Arg Arg Gly Ser Ala Pro Val Gly Val Arg Val Asn Met Thr Arg Arg		
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Gln Pro Pro His Pro Phe Leu Ala Asn Ala Asp Ser Ala Leu Ala Ala		
965	970	975
Ser Ala Ala Gly Phe Asn Ser Asn Gly Val Tyr Arg Pro Ser Met Pro		
980	985	990
Arg Asn Phe Phe His His Val Ala Tyr Ala Leu Gln Ala Glu Thr		
995	1000	1005
Ala Glu Lys Ala Leu Tyr Arg His Val Thr Thr Asn Ala Val Thr Lys		
1010	1015	1020
Thr Ser Glu Ile Asp Arg Lys Ser Ser Glu Thr Lys Ser Trp Arg Ser		
1025	1030	1035
Gln Asp Ala Ser Tyr Leu Pro Arg Gly Gly Ser Lys Ala Arg Glu Ser		

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Ser			Tyr	Tyr	Thr	Gln	Thr	Glu	Ser	Glu	Leu	Leu	Gln	Ile	Glu	Ala	Gly
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20																	
Gly			Thr	Gly	Leu	Thr	Phe	Ala	Ser	His	Ser	Gln	Arg	Pro	Glu	Ser	Ala
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Ile			Ser	Gln	Val	Ala	Ser	Thr	Ala	His	Leu	Asp	Val	Pro	Ser	Ala	Ala
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Ser			Ser	Gly	Ser	Gly	Gly	Ser	Ala	Val	Ser	Gly	Gly	Ser	Gly	Gly	Ala
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65																	
Pro			Glu	Ser	Ala	Gly	Arg	Phe	Val	Ser	Pro	Leu	Gln	Arg	Arg	His	Cys
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Gln			Pro	Pro	Ser	His	Leu	Pro	Leu	Asn	Ser	Val	Ala	Ser	Pro	Leu	Arg
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100																	
Thr			Ala	Ser	Tyr	Lys	Ser	Ala	Ala	Ala	Val	Ala	Gly	His	Gly	Phe	His
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His			Ser	His	His	Gln	Gln	Leu	Asp	Phe	Gln	Arg	Asn	Ser	Gln	Ser	Asp
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Asp			Asp	Ser	Gly	Cys	Ala	Leu	Glu	Glu	Tyr	Thr	Trp	Val	Pro	Pro	Gly
																160	
145																	
Leu			Arg	Pro	Asp	Gln	Val	Arg	Leu	Tyr	Phe	Ser	Gln	Leu	Pro	Asp	Asp
																175	
165																	
Lys			Val	Pro	Tyr	Val	Asn	Ser	Pro	Gly	Glu	Lys	Tyr	Arg	Val	Lys	Gln
																190	
180																	
Leu			Leu	His	Gln	Leu	Pro	Pro	Gln	Asp	Asn	Glu	Val	Arg	Tyr	Cys	His
																205	
195																	
Ser			Leu	Ser	Asp	Glu	Glu	Arg	Lys	Glu	Leu	Arg	Ile	Phe	Ser	Ala	Gln
																220	
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Arg			Lys	Arg	Glu	Ala	Leu	Gly	Arg	Gly	Ala	Val	Arg	Leu	Leu	Ser	Asp
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225																	

Glu Arg Pro Cys Lys Gly Cys Glu Glu Pro Leu Ser Gly Gly Asp Ile  
 245 250 255  
 Val Val Phe Ala Gln Arg Leu Gly Ala Gln Leu Cys Trp His Pro Gly  
 260 265 270  
 Cys Phe Val Cys Ser Val Cys Lys Glu Leu Leu Val Asp Leu Ile Tyr  
 275 280 285  
 Phe Gln Arg Asp Gly Asn Leu Tyr Cys Gly Arg His His Ala Glu Thr  
 290 295 300  
 Gln Lys Pro Arg Cys Ser Ala Cys Asp Glu Ile Ile Phe Ser Asp Glu  
 305 310 315 320  
 Cys Thr Glu Ala Glu Gly Arg Thr Trp His Met Lys His Phe Ala Cys  
 325 330 335  
 Gln Glu Cys Glu His Gln Leu Gly Gly Gln Arg Tyr Ile Met Arg Glu  
 340 345 350  
 Gly Lys Pro Tyr Cys Leu Ala Cys Phe Asp Thr Met Phe Ala Glu Tyr  
 355 360 365  
 Cys Asp Tyr Cys Gly Glu Val Ile Gly Val Asp Gln Gly Gln Met Ser  
 370 375 380  
 His Asp Gly Gln His Trp His Ala Thr Asp Gln Cys Phe Ser Cys Cys  
 385 390 395 400  
 Thr Cys Arg Cys Ser Leu Leu Gly Arg Pro Phe Leu Pro Arg Arg Gly  
 405 410 415  
 Thr Ile Tyr Cys Ser Ile Ala Cys Ser Lys Gly Glu Pro Pro Thr Pro  
 420 425 430  
 Ser Asp Thr Ser Ser Gly Pro Gln Leu Arg Pro Thr His Arg Ala Ser  
 435 440 445  
 Thr Ser Ser Gln Ile Ala Lys Ser Pro Arg Arg Gly Gly Glu Arg Glu  
 450 455 460  
 Arg Asp Pro Gly Arg Lys Ala His His Gly His Pro Lys Ala Thr Gly  
 465 470 475 480  
 Ser Ala Gly Asp Leu Leu Glu Arg Gln Glu Arg Gln Arg Met Glu Ala  
 485 490 495  
 Ala Gly Val Ala Asp Leu Leu Gly Gly Val Pro Gly Met Pro  
 500 505 510  
 Arg Pro Ala His Pro Pro Pro Ile Asp Leu Thr Glu Leu Gly Ile Ser  
 515 520 525  
 Leu Asp Asn Ile Cys Ala Gly Asp Lys Ser Ile Phe Gly Asp Thr Gln  
 530 535 540

Thr Leu Thr Asn Ser Met Pro Asp Met Leu Leu Ser Lys Ala Asp Asp  
 545 550 555 560  
 Ser His Ser Tyr Gln Ser Ile Asp Lys Ile Asn Leu Asn Ser Pro Ser  
 565 570 575  
 Asn Ser Asp Leu Thr Gln Ser Thr Gln Glu Leu Ala Asn Glu Leu Glu  
 580 585 590  
 Leu Asp Asn Glu Pro Val Arg Glu Leu Pro His Asp Gly Tyr Glu Gln  
 595 600 605  
 Leu Phe Ala Asn Asn Arg Asn Gln Glu His Pro Ala Glu Gln Tyr Asp  
 610 615 620  
 Asp Glu Gln Leu Asp Asn Arg Pro Met Lys Glu Val Arg Phe His Ser  
 625 630 635 640  
 Val Gln Asp Thr Met Ser Arg Ser Lys Ser Tyr Thr Asp Asn Ser Asn  
 645 650 655  
 Ala Arg Arg Arg Arg Arg Asn Gln Ser Arg Ser Ser Ser Glu  
 660 665 670  
 Met Gln Ile Asn Gln Thr Asn Leu Arg Leu His Asn Ala Gln Thr Gln  
 675 680 685  
 Val Gly Thr Thr Pro Leu Asn Leu Leu Asn Leu Asp Asn Cys Asp  
 690 695 700  
 Val Ala Ser Ile Cys Ser Thr Cys Ser Ser Ser Ser Ser Asp Met  
 705 710 715 720  
 Asp Asp Tyr Val Tyr Arg Leu Pro Ala Arg Lys His Tyr Gly Gly Val  
 725 730 735  
 Arg Val Ala Tyr Val Pro Asn Asp Ala Leu Ala Tyr Glu Arg Lys Lys  
 740 745 750  
 Lys Met Ala Gln Asp Ser Ser Leu Ala Pro Gly Ala Gly Asn Ala Ser  
 755 760 765  
 Val Gly Gly Ala Pro Ala Ile Met His Glu Ser Lys Asn Cys Thr Ile  
 770 775 780  
 Ser  
 785  
 <210> 16  
 <211> 615  
 <212> PRT  
 <213> Homo sapiens  
 <400> 16  
 Met Phe Ala Arg Gly Ser Arg Arg Arg Ser Gly Arg Ala Pro Pro  
 1 5 10 15

Glu Ala Glu Asp Pro Asp Arg Gly Gln Pro Cys Asn Ser Cys Arg Glu  
                   20                  25                  30

Gln Cys Pro Gly Phe Leu Leu His Gly Trp Arg Lys Ile Cys Gln His  
                   35                  40                  45

Cys Lys Cys Pro Arg Glu Glu His Ala Val His Ala Val Pro Val Asp  
                   50                  55                  60

Leu Glu Arg Ile Met Cys Arg Leu Ile Ser Asp Phe Gln Arg His Ser  
                   65                  70                  75                  80

Ile Ser Asp Asp Asp Ser Gly Cys Ala Ser Glu Glu Tyr Ala Trp Val  
                   85                  90                  95

Pro Pro Gly Leu Lys Pro Glu Gln Val Tyr Gln Phe Phe Ser Cys Leu  
                   100                  105                  110

Pro Glu Asp Lys Val Pro Tyr Val Asn Ser Pro Gly Glu Lys Tyr Arg  
                   115                  120                  125

Ile Lys Gln Leu Leu His Gln Leu Pro Pro His Asp Ser Glu Ala Gln  
                   130                  135                  140

Tyr Cys Thr Ala Leu Glu Glu Glu Lys Lys Glu Leu Arg Ala Phe  
                   145                  150                  155                  160

Ser Gln Gln Arg Lys Arg Glu Asn Leu Gly Arg Gly Ile Val Arg Ile  
                   165                  170                  175

Phe Pro Val Thr Ile Thr Gly Ala Ile Cys Glu Glu Cys Gly Lys Gln  
                   180                  185                  190

Ile Gly Gly Asp Ile Ala Val Phe Ala Ser Arg Ala Gly Leu Gly  
                   195                  200                  205

Ala Cys Trp His Pro Gln Cys Phe Val Cys Thr Thr Cys Gln Glu Leu  
                   210                  215                  220

Leu Val Asp Leu Ile Tyr Phe Tyr His Val Gly Lys Val Tyr Cys Gly  
                   225                  230                  235                  240

Arg His His Ala Glu Cys Leu Arg Pro Arg Cys Gln Ala Cys Asp Glu  
                   245                  250                  255

Ile Ile Phe Ser Pro Glu Cys Thr Glu Ala Glu Gly Arg His Trp His  
                   260                  265                  270

Met Asp His Phe Cys Cys Phe Glu Cys Glu Ala Ser Leu Gly Gly Gln  
                   275                  280                  285

Arg Tyr Val Met Arg Gln Ser Arg Pro His Cys Cys Ala Cys Tyr Glu  
                   290                  295                  300

Ala Arg His Ala Glu Tyr Cys Asp Gly Cys Gly Glu His Ile Gly Leu  
                   305                  310                  315                  320

Asp Gln Gly Gln Met Ala Tyr Glu Gly Gln His Trp His Ala Ser Asp  
                  325                 330                 335  
  
 Arg Cys Phe Cys Cys Ser Arg Cys Gly Arg Ala Leu Leu Gly Arg Pro  
                  340                 345                 350  
  
 Phe Leu Pro Arg Arg Gly Leu Ile Phe Cys Ser Arg Ala Cys Ser Leu  
                  355                 360                 365  
  
 Gly Ser Glu Pro Thr Ala Pro Gly Pro Ser Arg Arg Ser Trp Ser Ala  
                  370                 375                 380  
  
 Gly Pro Val Thr Ala Pro Leu Ala Ala Ser Thr Ala Ser Phe Ser Ala  
                  385                 390                 395                 400  
  
 Val Lys Gly Ala Ser Glu Thr Thr Lys Gly Thr Ser Thr Glu Leu  
                  405                 410                 415  
  
 Ala Pro Ala Thr Gly Pro Glu Glu Pro Ser Arg Phe Leu Arg Gly Ala  
                  420                 425                 430  
  
 Pro His Arg His Ser Met Pro Glu Leu Gly Leu Arg Ser Val Pro Glu  
                  435                 440                 445  
  
 Pro Pro Pro Glu Ser Pro Gly Gln Pro Asn Leu Arg Pro Asp Asp Ser  
                  450                 455                 460  
  
 Ala Phe Gly Arg Gln Ser Thr Pro Arg Val Ser Phe Arg Asp Pro Leu  
                  465                 470                 475                 480  
  
 Val Ser Glu Gly Gly Pro Arg Arg Thr Leu Ser Ala Pro Pro Ala Gln  
                  485                 490                 495  
  
 Arg Arg Arg Pro Arg Ser Pro Pro Pro Arg Ala Pro Ser Arg Arg Arg  
                  500                 505                 510  
  
 His His His His Asn His His His His Asn Arg His Pro Ser Arg  
                  515                 520                 525  
  
 Arg Arg His Tyr Gln Cys Asp Ala Gly Ser Gly Ser Asp Ser Glu Ser  
                  530                 535                 540  
  
 Cys Ser Ser Ser Pro Ser Ser Ser Ser Glu Ser Ser Glu Asp Asp  
                  545                 550                 555                 560  
  
 Gly Phe Phe Leu Gly Glu Arg Ile Pro Leu Pro Pro His Leu Cys Arg  
                  565                 570                 575  
  
 Pro Met Pro Ala Gln Asp Thr Ala Met Glu Thr Phe Asn Ser Pro Ser  
                  580                 585                 590  
  
 Leu Ser Leu Pro Arg Asp Ser Arg Ala Gly Met Pro Arg Gln Ala Arg  
                  595                 600                 605  
  
 Asp Lys Asn Cys Ile Val Ala  
                  610                 615

<210> 17  
 <211> 1028  
 <212> PRT  
 <213> Drosophila melanogaster

<400> 17  
 Glu Glu Glu Ser Pro Glu Gln Glu Ala Pro Lys Pro Ala Leu Pro Pro  
 1 5 10 15

Lys Gln Lys Gln Gln Arg Pro Val Pro Pro Leu Pro Pro Pro Ala  
 20 25 30

Asn Arg Val Thr Gln Asp Gln Gly Thr Gln Pro Ala Ala Pro Gln Val  
 35 40 45

Pro Leu Gln Pro Leu Thr Ala Gly Asp Leu Gln Phe Leu Asn Leu Ser  
 50 55 60

Leu Arg Gln Arg Ser Leu Pro Arg Ser Met Lys Pro Phe Lys Asp Ala  
 65 70 75 80

His Asp Ile Ser Phe Thr Phe Asn Glu Leu Asp Thr Ser Ala Glu Pro  
 85 90 95

Glu Val Ala Thr Gly Ala Ala Gln Glu Ser Asn Glu Cys Arg Thr  
 100 105 110

Pro Leu Thr Gln Ile Ser Tyr Leu Gln Lys Ile Pro Thr Leu Pro Arg  
 115 120 125

His Phe Ser Pro Ser Gly Gln Gly Leu Ala Thr Pro Pro Ala Leu Gly  
 130 135 140

Ser Gly Gly Met Gly Leu Pro Ser Ser Ser Ala Ser Ala Leu Tyr  
 145 150 155 160

Ala Ala Gln Ala Ala Ala Gly Ile Leu Pro Thr Ser Pro Leu Pro Leu  
 165 170 175

Gln Arg His Gln Gln Tyr Leu Pro Pro His His Gln Gln His Pro Gly  
 180 185 190

Ala Gly Met Gly Pro Gly Pro Gly Ser Gly Ala Ala Ala Gly Pro Pro  
 195 200 205

Leu Gly Pro Gln Tyr Ser Pro Gly Cys Ser Ala Asn Pro Lys Tyr Ser  
 210 215 220

Asn Ala Gln Leu Pro Pro Pro His His His His Gln Leu Ser Pro  
 225 230 235 240

Ala Leu Ser Thr Pro Ser Pro Pro Ser Leu Leu His His Pro Ala Gly  
 245 250 255

Gly Thr Ser Ser Ala Ser Ala His Ala Pro Phe Leu Gly Gly Pro His

260	265	270
Met Asp Met Gln Arg Gln Ser His Ser Asp Asp Asp Ser Gly Cys Ala		
275	280	285
Leu Glu Glu Tyr Thr Trp Val Pro Pro Gly Leu Arg Pro Asp Gln Val		
290	295	300
Arg Leu Tyr Phe Ser Gln Ile Pro Asp Asp Lys Val Pro Tyr Val Asn		
305	310	315
Ser Pro Gly Glu Gln Tyr Arg Val Arg Gln Leu Leu His Gln Leu Pro		
325	330	335
Pro His Asp Asn Glu Val Arg Tyr Cys His Ser Leu Thr Asp Glu Glu		
340	345	350
Arg Lys Glu Leu Arg Leu Phe Ser Thr Gln Arg Lys Arg Asp Ala Leu		
355	360	365
Gly Arg Gly Asn Val Arg Gln Leu Met Ser Ala Arg Pro Cys Asp Gly		
370	375	380
Cys Asp Asp Leu Ile Ser Thr Gly Asp Ile Ala Val Phe Ala Thr Arg		
385	390	400
Leu Gly Pro Asn Ala Ser Trp His Pro Ala Cys Phe Ala Cys Ser Val		
405	410	415
Cys Arg Glu Leu Leu Val Asp Leu Ile Tyr Phe His Arg Asp Gly Arg		
420	425	430
Met Tyr Cys Gly Arg His His Ala Glu Thr Leu Lys Pro Arg Cys Ser		
435	440	445
Ala Cys Asp Glu Ile Ile Leu Ala Asp Glu Cys Thr Glu Ala Glu Gly		
450	455	460
Arg Ala Trp His Met Asn His Phe Ala Cys His Glu Cys Asp Lys Gln		
465	470	475
480		
Leu Gly Gly Gln Arg Tyr Ile Met Arg Glu Gly Lys Pro Tyr Cys Leu		
485	490	495
His Cys Phe Asp Ala Met Phe Ala Glu Tyr Cys Asp Tyr Cys Gly Glu		
500	505	510
Ala Ile Gly Val Asp Gln Gly Gln Met Ser His Asp Gly Gln His Trp		
515	520	525
His Ala Thr Asp Glu Cys Phe Ser Cys Asn Thr Cys Arg Cys Ser Leu		
530	535	540
Leu Gly Arg Ala Phe Leu Pro Arg Arg Gly Ala Ile Tyr Cys Ser Ile		
545	550	555
560		
Ala Cys Ser Lys Gly Glu Pro Pro Thr Pro Ser Asp Ser Ser Gly Thr		

565	570	575
Gly Met Tyr Thr Thr Pro Pro Pro Thr Gln Arg Val Arg Pro His		
580	585	590
Pro Gln Ala Pro Leu Pro Ala Arg Ile Pro Ser Ser His Ala Ser Ser		
595	600	605
Ser Pro Pro Met Ser Pro Gln Gln Gln Gln His Gln Ala Thr Phe		
610	615	620
Asn Gln Ala Met Tyr Gln Met Gln Ser Gln Gln Met Glu Ala Ala Gly		
625	630	635
Gly Leu Val Asp Gln Ser Lys Ser Tyr Ala Ala Ser Asp Ser Asp Ala		
645	650	655
Gly Val Val Lys Asp Leu Glu His Gly Gly His Met Gly Gly Asp		
660	665	670
Leu Thr Asp Phe Ser Gly Gly Arg Ala Ser Ser Thr Ser Gln Asn Leu		
675	680	685
Ser Pro Leu Asn Ser Pro Gly Asp Phe Gln Pro His Phe Leu Pro Lys		
690	695	700
Pro Met Glu Leu Gln Arg Gln Leu Leu Glu Asn Pro His Thr Ala Ser		
705	710	715
720		
Met Pro Glu Leu Ala Gly Lys Leu Val Ala Pro Pro Ala His Met Gln		
725	730	735
His Leu Ser Gln Leu His Ala Val Ser Ser His Gln Phe Gln Gln His		
740	745	750
Glu Tyr Ala Asp Ile Leu His Pro Pro Pro Pro Pro Gly Glu Ile		
755	760	765
Pro Glu Leu Pro Thr Pro Asn Leu Ser Val Ala Ser Thr Ala Leu Pro		
770	775	780
Pro Glu Leu Met Gly Ser Pro Thr His Ser Ala Gly Asp Arg Ser Leu		
785	790	795
800		
Asn Thr Pro Met Ser Thr Gln Ser Ala Ser His Ala Pro Pro His Pro		
805	810	815
Val Ser Ile Leu Ser Gly Ala Ser Ser Ser Ser Pro Met Ser Gly Glu		
820	825	830
Pro Ala Lys Lys Lys Gly Val Arg Phe Glu Gly Ile Pro Asp Thr Leu		
835	840	845
Pro Arg Ser Arg Ser Tyr Ser Gly Asn Gly Ala Gly Thr Ser Gly Gly		
850	855	860
Gly Glu Arg Glu Arg Asp Arg Asp Lys Asp Lys Glu Gly Gly Arg		

865	870	875	880
His Gly His Gly His Ser Ser Arg Arg Arg Arg Arg Arg Lys Ser Ser			
885	890	895	
Ser Ser Ser Ser His His Arg Ser Gly Ser Gly His Arg Ser His Ser			
900	905	910	
Thr Thr Arg Ala Asp Thr Tyr Ala Pro Ala Gln Pro Leu Ser Ser Ser			
915	920	925	
Tyr Gln Gly Pro Pro Ser Val Leu Gln Ala Ala Asn Leu Val His Glu			
930	935	940	
Ser Pro Ser Arg Gln Gln Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu			
945	950	955	960
Glu Ser Glu Glu Ser Asp Val Cys Ser Thr Cys Ser Ser Ser Ser Ser			
965	970	975	
Ser Ser Glu Asp Tyr Met Met Tyr Gln Leu Pro Gln Arg Arg His			
980	985	990	
Tyr Gly Val Arg Val Ser Tyr Val Pro Asn Asp Ala Leu Ala Tyr			
995	1000	1005	
Asp Arg Lys Arg Lys Pro Ser Glu Leu Gly Gly Asp Lys Asp Lys Asn			
1010	1015	1020	
Cys Ile Ile Ser			
1025			
<210> 18			
<211> 1278			
<212> DNA			
<213> Homo sapiens			
<400> 18			
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cttgcgtccc tcgatccagt ctccgacttc cattttccac cctaaaccgc ctaccgggtg 120			
tctgttcccc gcccgggtgt cctcgccctg ctgcgctgag tggccctgt tagcctcgac 180			
cccatggcgc tgcagacgct gcagagctcg tgggtgaccc tccgcaagat cctgtctcac 240			
ttccccggagg agctgagtct ggcttcgtc tacggctccg ggggtgtaccg ccaggcagg 300			
cccgagttcag accagaagaa tgctatgctg gactttgtgt tcacagtaga tgaccctgtc 360			
gcatggcatt caaagaacct gaagaaaaat tggagtcaact actcttcct aaaagttta 420			
gggcccaga ttatcacgtc catccagaat aactatggcg ctggagtttta ctacaattca 480			
ttgatcatgt gtaatggtag gcttatcaaa tatggagtttta ttagcactaa cgttctgatt 540			
gaagatctcc tcaactggaa taacttatac attgctggac gactccaaaa accggtgaaa 600			
attatctcag tgaacgagga tgtcaacttt agatcagccc tcgatagaaa tctgaagagt 660			
gctgtgaccg ctgcttcct catgctcccc gaaagctttt ctgaagaaga cctcttcata 720			
gagattgccc gtcttccta ttcaggtgac tttcgatgg tggttggaga agataaaaca 780			
aaagtgttga atattgtgaa gccaataata gcccactttc gagagctcta tggcagcata 840			
ctacaggaaa atcctcaagt ggtgtataaa agccagcaag gctggctgga gatagataaa 900			
agcccagaag gacagttcac tcagctgatg acattgccc aaacttaca gcaacagata 960			
aatcatatta tggaccctcc tggaaaaaac agagatgtgg aagaaaactt attccaagtg 1020			
gctcatgatc ccgactgtgg agatgtggc cgacttagggc tttcagcaat cgtgagaccg 1080			

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tctagtataa gacagagcac gaaggcatt ttactgctg gcctgaagaa gtcagtgatt 1140
tatagttcac taaaactgca caaaatgtgg aaagggtggc tgagggaaaac atcctgatt 1200
tgcttgcctt tatatatgtt atgtgttagat gaataaagtg tttgatcctt tttgacaaaa 1260
aaaaaaaaaa aaaaaaaaaa 1278
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<210> 19  
<211> 337  
<212> PRT  
<213> *Homo sapiens*

<400> 19  
Met Ala Leu Gln Thr Leu Gln Ser Ser Trp Val Thr Phe Arg Lys Ile  
1 5 10 15

Leu Ser His Phe Pro Glu Glu Leu Ser Leu Ala Phe Val Tyr Gly Ser  
                  20                 25                 30

Gly Val Tyr Arg Gln Ala Gly Pro Ser Ser Asp Gln Lys Asn Ala Met  
35 40 45

Leu Asp Phe Val Phe Thr Val Asp Asp Pro Val Ala Trp His Ser Lys  
50 55 60

Asn	Leu	Lys	Lys	Asn	Trp	Ser	His	Tyr	Ser	Phe	Leu	Lys	Val	Leu	Gly
65					70					75					80

Pro Lys Ile Ile Thr Ser Ile Gln Asn Asn Tyr Gly Ala Gly Val Tyr  
 85 90 95

Tyr Asn Ser Leu Ile Met Cys Asn Gly Arg Leu Ile Lys Tyr Gly Val  
 100 105 110

Ile Ser Thr Asn Val Leu Ile Glu Asp Leu Leu Asn Trp Asn Asn Leu  
 115 120 125

Tyr Ile Ala Gly Arg Leu Gln Lys Pro Val Lys Ile Ile Ser Val Asn  
 130 135 140

Glu Asp Val Thr Leu Arg Ser Ala Leu Asp Arg Asn Leu Lys Ser Ala  
145 150 155 160

Val Thr Ala Ala Phe Leu Met Leu Pro Glu Ser Phe Ser Glu Glu Asp  
165 170 175

Leu Phe Ile Glu Ile Ala Gly Leu Ser Tyr Ser Gly Asp Phe Arg Met  
180 185 190

Val Val Gly Glu Asp Lys Thr Lys Val Leu Asn Ile Val Lys Pro Asn  
195 200 205

Ile Ala His Phe Arg Glu Leu Tyr Gly Ser Ile Leu Gln Glu Asn Pro  
210 215 220

Gln Val Val Tyr Lys Ser Gln Gln Gly Trp Leu Glu Ile Asp Lys Ser  
225 230 235 240

Pro Glu Gly Gln Phe Thr Gln Leu Met Thr Leu Pro Lys Thr Leu Gln  
                  245                 250                 255

Gln Gln Ile Asn His Ile Met Asp Pro Pro Gly Lys Asn Arg Asp Val  
260 265 270

Glu Glu Thr Leu Phe Gln Val Ala His Asp Pro Asp Cys Gly Asp Val  
275 280 285

Val Arg Leu Gly Leu Ser Ala Ile Val Arg Pro Ser Ser Ile Arg Gln  
290 295 300

Ser Thr Lys Gly Ile Phe Thr Ala Gly Leu Lys Lys Ser Val Ile Tyr  
 305 310 315 320

Ser Ser Leu Lys Leu His Lys Met Trp Lys Gly Trp Leu Arg Lys Thr  
                   325                   330                   335

Ser

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<210> 20
<211> 1278
<212> DNA
<213> Homo sapiens
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<400> 20  
tttttttttt tttttttttt ttgtcaaaaa ggatcaaaca ctttattcat ctacacataa 60  
catatataaa agcaagcaaa atcaggatgt tttcctcagc cacccttcc acattttgt 120  
cagttttagt gaactataaa tcactgactt cttcaggcca gcagtaaaaaa tgccttcgt 180  
gctctgtctt atactagacg gtctcagcat tgctgaaagc cctagtcgca ccacatctcc 240  
acagtcggga tcatgagcca cttggaataa agtttcttcc acatctctgt ttttccagg 300  
agggtccata atatgattt tctgttgctg taaggttttggcaatgtca ttagctgagt 360  
gaactgtcct tctggcctt tatctatctc cagccagcct tgctggctt tatacaccac 420  
ttgaggattt tcctgttagta tgctgcata gagctctcgaa agtgggcta tattgggctt 480  
cacaatattc aacacttttgc ttatcttc tccaaccacc atccggaaagt cacctgaata 540  
ggagagacccg gcaatctcta tgaagaggc ttcttcagaa aagcttcgg ggagcatgag 600  
gaaagcagcg gtcacagcac tcttcagatt tctatcgagg gctgatctaa gagtgacatc 660  
ctcgttcaact gagataattt tcaccgggtt ttggagtcgt ccagcaatgt ataagttatt 720  
ccagttgagg agatcttcaa tcagaacggtt agtgctaata actccatatt tgataagcct 780  
accattacac atgatcaatg aattgttagta aactccagcg ccatagttat tctggatgga 840  
cggtataatc ttggggcccta aaacttttag gaaagagtag tgactccaat ttttcttcag 900  
gttctttgaa tgccatgcga cagggtcatc tactgtgaac acaaagtcca gcatagcatt 960  
cttctggctt gaactgggccc ctgcctggcg gtacaccccg gagccgtaga cggaaagccag 1020  
actcagctcc tggggaaagt gagacaggat ctgcggaaag gtcacccacg agctctgcag 1080  
cgctctgcagc gccatgggggt cgaggctaac aggggacact cagcgcagca gggcgaggac 1140  
aaccggggcg ggaacagaca ccgggttaggc gtttaggggt gggaaatgga agtcggagac 1200  
tggatcgagg gacacaaggc tgagtgtggg gtgggactgc aaggacacgc aaggattggg 1260  
gcgttgggccc acgaagag 1278

<210> 21  
<211> 367  
<212> PRT  
<213> *Mus musculus*

<400> 21  
 Gly Thr Gly Arg Lys Arg Gly Pro His Asp Arg Glu Leu Arg Ala Gln  
 1 5 10 15  
 Gly Arg His Ser Thr Val Cys Pro Thr Gly Gly Pro Pro Ala His Gly  
 20 25 30  
 Ala Ala Gly Leu His Ser Ser Gly Val Gly Leu Arg Arg Ile Leu Ala  
 35 40 45  
 His Phe Pro Glu Asp Leu Ser Leu Ala Phe Ala Tyr Gly Ser Ala Val  
 50 55 60  
 Tyr Arg Gln Ala Gly Pro Ser Ala His Gln Glu Asn Pro Met Leu Asp  
 65 70 75 80  
 Leu Val Phe Thr Val Asp Asp Pro Val Ala Trp His Ala Met Asn Leu  
 85 90 95  
 Lys Lys Asn Trp Ser His Tyr Ser Phe Leu Lys Leu Leu Gly Pro Arg  
 100 105 110  
 Ile Ile Ser Ser Ile Gln Asn Asn Tyr Gly Ala Gly Val Tyr Phe Asn  
 115 120 125  
 Pro Leu Ile Arg Cys Asp Gly Lys Leu Ile Lys Tyr Gly Val Ile Ser  
 130 135 140  
 Thr Gly Thr Leu Ile Glu Asp Leu Leu Asn Trp Asn Asn Leu Tyr Ile  
 145 150 155 160  
 Ala Gly Arg Leu Gln Lys Pro Val Lys Ile Val Ser Met Asn Glu Asn  
 165 170 175  
 Met Ala Leu Arg Ala Ala Leu Asp Lys Asn Leu Arg Ser Ala Val Thr  
 180 185 190  
 Thr Ala Cys Leu Met Leu Pro Glu Ser Phe Ser Glu Glu Asp Leu Phe  
 195 200 205  
 Ile Glu Ile Ala Gly Leu Ser Tyr Ser Gly Asp Phe Arg Met Val Ile  
 210 215 220  
 Gly Glu Glu Lys Ser Lys Val Leu Asn Ile Val Lys Pro Asn Val Gly  
 225 230 235 240  
 His Phe Arg Glu Leu Tyr Glu Ser Ile Leu Gln Lys Asp Pro Gln Val  
 245 250 255  
 Val Tyr Lys Met His Gln Gly Gln Leu Glu Ile Asp Lys Ser Pro Glu  
 260 265 270  
 Gly Gln Phe Thr Gln Leu Met Thr Leu Pro Arg Thr Leu Gln Gln Gln  
 275 280 285  
 Ile Asn His Ile Met Asp Pro Pro Gly Arg Asn Arg Asp Val Glu Glu  
 290 295 300

Thr Leu Leu Gln Val Ala Gln Asp Pro Asp Cys Gly Asp Val Val Arg  
305 310 315 320

Leu Ala Ile Ser Ser Ile Val Arg Pro Ser Ser Ile Arg Gln Ser Thr  
325 330 335

Lys Gly Leu Phe Thr Ala Gly Met Lys Lys Ser Val Ile Tyr Ser Ser  
340 345 350

Arg Lys Leu Asn Lys Met Trp Lys Gly Trp Met Ser Lys Ala Ser  
355 360 365

<210> 22

<211> 383

<212> PRT

<213> Schizosaccharomyces pombe

<400> 22

Met Ile Phe Gly Lys Thr His Phe Leu Ser Tyr Asn Ile Leu Arg Tyr  
1 5 10 15

Ser Thr Lys Arg Trp Met Asn Arg His Ser Tyr Ser His His Ala Lys  
20 25 30

Cys Thr Val Ala Gln Leu Leu Lys Gln Asn Leu Leu Thr Phe Glu Asn  
35 40 45

Gln Arg Ile Gln Pro Glu Glu Leu Lys Glu Asn Leu Thr Lys Val  
50 55 60

Val Asn Tyr Phe Gln Ala Pro Ile Asp Val Ala Val Gly Tyr Gly Ser  
65 70 75 80

Gly Val Phe Arg Gln Ala Gly Tyr Ser Gln Lys Glu Asn Pro Met Ile  
85 90 95

Asp Phe Ile Phe Gln Val Glu Asp Pro Val Lys Trp His Lys Ile Asn  
100 105 110

Leu Gln Gln Asn Pro Ser His Tyr Ser Phe Val Lys Asn Phe Gly Pro  
115 120 125

Gly Phe Val Ser Thr Leu Gln Glu Ser Phe Gly Thr Gly Val Tyr Tyr  
130 135 140

Asn Thr His Val Glu Val Glu Gly Asn Ile Ile Lys Tyr Gly Val Thr  
145 150 155 160

Ser Lys Lys Asp Val Tyr Glu Asp Leu Lys Asn Trp Asn Thr Met Tyr  
165 170 175

Leu Ala Gly Arg Phe Gln Lys Pro Val Val Ile Leu Lys Gly Glu Asp  
180 185 190

Glu Phe Tyr Lys Glu Asn Ser Tyr Asn Leu Ser Ser Ala Leu His Val

195	200	205	
Gly Leu Leu Met Leu Ala Asp Arg Phe Thr Glu Phe Asp Leu Tyr Lys			
210	215	220	
Thr Ile Val Ser Leu Ser Tyr Leu Gly Asp Ile Arg Met Ser Phe Phe			
225	230	235	240
Ala Glu Asn Pro Arg Lys Val Glu Asn Ile Val Ser Lys Gln Ile Ala			
245	250	255	
Phe Phe Arg Lys Leu Tyr Leu Pro Leu Leu Tyr Ala Glu Pro Gly Val			
260	265	270	
His Phe Ile Glu Ser Ser Glu Val Leu Lys Ser Met Asp Pro Ser Asp			
275	280	285	
Asn Ser Arg Tyr Leu Ser Phe His Gln Asn Ile Thr Lys Asp Ser Ile			
290	295	300	
Ser Arg Leu Leu Asn Gly Leu Pro Leu Asn Leu Val Lys Ile Leu Gly			
305	310	315	320
Leu Lys Pro Asp Thr Ser Ser Phe Glu Lys Cys Ala Glu Leu Met Leu			
325	330	335	
Thr Asn Gln Ile Ser Thr Arg Ser Leu Leu Ile Ser Lys Ser Ile Lys			
340	345	350	
Lys Leu Thr Ser Phe Ser Ile Leu Thr Gln Ser Ile Lys Gly Ile Phe			
355	360	365	
Thr Ala Arg Cys His Ser Phe Arg Trp Tyr Met Ser Met Arg Ser			
370	375	380	
<210> 23			
<211> 274			
<212> PRT			
<213> <i>Caenorhabditis elegans</i>			
<400> 23			
Met Asp Glu Tyr Arg Glu Leu Ile Ser Val Leu Pro Leu Glu Thr Val			
1	5	10	15
Glu Tyr Ala Phe Ala Tyr Gly Ser Gly Ala Ile Gln Gln Gln Asn Glu			
20	25	30	
Asp Lys Ser Glu Lys Met Val Asp Phe Val Ile Val Thr Lys Asn Ala			
35	40	45	
Gln Glu Phe His Arg Asp Asn Ile Leu Lys Asn Pro Gln His Tyr Ser			
50	55	60	
Leu Leu Arg Leu Met Gly Pro Lys Met Ile Glu Lys Ile Gln Cys Asn			
65	70	75	80

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<210> 24
<211> 647
<212> PRT
<213> Drosophila melanogaster
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<400> 24
Met Leu Asp Leu Tyr Arg Arg Thr Val Ala Arg Phe Pro Leu Gly Ser
      1           5           10          15

Val Ser Tyr Met Phe Ala Tyr Gly Ser Gly Val Lys Gln Gln Glu Gly
      20          25          30

Tyr Gly Lys Val Gly Asn Gly Asn Asn Leu Arg Pro Pro Pro Gly Thr
      35          40          45

Val Val Asp Leu Val Phe Cys Val Arg Asp Ala Arg Gly Phe His Ala
      50          55          60

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Glu Asn Leu His Arg His Pro Asp His Tyr Ser Ala Leu Arg His Leu  
 65 70 75 80  
 Gly Pro Asn Phe Val Ala Lys Tyr Gln Glu Arg Leu Gly Ala Gly Val  
 85 90 95  
 Tyr Cys Asn Thr Leu Val Pro Leu Pro Asp Val Gly Ile Thr Ile Lys  
 100 105 110  
 Tyr Gly Val Val Ser Gln Glu Glu Leu Leu Glu Asp Leu Leu Asp Trp  
 115 120 125  
 Arg His Leu Tyr Leu Ala Gly Arg Leu His Lys Pro Val Thr Asn Leu  
 130 135 140  
 Val Asn Pro Ser Asp Asn Pro Pro Leu Lys Ala Ala Leu Glu Arg Asn  
 145 150 155 160  
 Leu Val Ser Ala Leu Gln Val Ala Leu Leu Leu Pro Glu Lys Phe  
 165 170 175  
 Thr Ala Tyr Gly Leu Phe His Thr Ile Ala Gly Leu Ser Tyr Lys Gly  
 180 185 190  
 Asp Phe Arg Met Ile Phe Gly Glu Asn Lys Gln Lys Val His Asn Ile  
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 Val Ser Pro Gln Ile Asn Asp Phe Phe Ala Leu Tyr Gln Pro Ser Leu  
 210 215 220  
 Gly Gln Leu Ser Asp Tyr Val Ala Val Asn Met Lys Gly Gln Glu Pro  
 225 230 235 240  
 Gly Ser Arg Lys Pro Ala Ile Ile Phe Glu Gln Asp Lys Ser Ser Ser  
 245 250 255  
 Ala Thr Cys Gln His Leu Arg Gln Leu Pro Arg Glu Leu Gln Lys Arg  
 260 265 270  
 Leu Gln Arg Asn Ala Ala Cys Arg Gly Asp Tyr Thr Gln Val Val Asn  
 275 280 285  
 His Leu Ser Met Ala Ser Gln Leu Pro Glu Val Leu Gln Ala Ser Val  
 290 295 300  
 Asn Asp Ile Ile Met Ser Ser Asp Asp Asn Ser Ser Asp Ser Asn Ser  
 305 310 315 320  
 Ser Ser Asp Glu Arg Gln Arg Lys Arg Lys Leu Lys Lys His Ser Lys  
 325 330 335  
 Asp Val Asp Lys Ser Lys Lys Lys Ser Lys Lys His Lys Lys Glu  
 340 345 350  
 Lys Arg Arg His Lys Glu Lys Lys Arg Ser Lys His Glu Glu Glu Pro  
 355 360 365

Pro Val Pro Tyr Thr Gln Pro Pro His Leu Ile Asn Ala Ser Pro Pro  
 370 375 380  
 Asp Val Ala Thr Asn Asn Glu Asp Ser Phe Gly Pro Ala Leu Pro Pro  
 385 390 395 400  
 His Leu Arg Lys Thr Gln Gln Pro Glu Leu Pro Glu Gln Ser Gln Pro  
 405 410 415  
 Ala Pro Gln Pro Gln Ala Met Ile Gly Pro Val Leu Pro Ser Asn Leu  
 420 425 430  
 Thr Arg Glu Lys Ser Pro Thr Lys Glu Ala Glu Ala Glu Asp Asp Asp  
 435 440 445  
 Asp Leu Ala Gly Thr Phe Gly Pro Leu Pro Asn Ala Ser Gln Val Ala  
 450 455 460  
 Leu Glu Glu Arg Ala Leu Ala Leu Lys Leu Ala Ala Leu Glu Gly Gly  
 465 470 475 480  
 Gly Leu Gly Thr Ser Thr Asp Gln Asp Val Arg Glu Glu Trp Met Leu  
 485 490 495  
 Glu Leu Pro Asp Val Gly Leu Lys Ser Gly Leu Ala Ala Leu Ser Asn  
 500 505 510  
 Met Lys Arg Thr Phe Tyr Gln Gly Lys Glu Arg Pro Asp Phe Ser Asp  
 515 520 525  
 Arg Ser Ser Trp Thr Lys Thr Pro Gln Ser Glu Ala Asp Ala Ala Ala  
 530 535 540  
 Ser Gly Pro Lys Ser Leu Ser Ser Lys Glu Leu Glu Gln Met Ala Gln  
 545 550 555 560  
 Val Lys Tyr Glu Gln Gln Arg Asp Asp Glu Gln Glu Ser Met Ala Lys  
 565 570 575  
 Arg His Lys Lys Lys His Lys Arg Glu Glu Ser Leu Val Glu Leu His  
 580 585 590  
 Gln Lys Lys Leu Arg Lys Glu Gln Arg Glu Lys Pro Glu Arg Arg Pro  
 595 600 605  
 Phe Ser Arg Asp Val Asp Leu Lys Leu Asn Lys Ile Asp Lys Asn Gln  
 610 615 620  
 Thr Lys Gln Ile Val Asp Lys Ala Lys Ile Leu Asn Thr Lys Phe Ser  
 625 630 635 640  
 Arg Gly Gln Ala Lys Tyr Leu  
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<211> 332  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 25  
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Pro Pro Val Asp Phe Cys Cys Val Tyr Gly Ser Thr Leu His Pro Asn  
 20 25 30

Asn Gln Asp Lys Ser Lys Met Val Asp Tyr Ile Leu Gly Val Ser Asp  
 35 40 45

Pro Ile Lys Trp His Ser Ala Asn Leu Lys Met Asn Ser Asp His Tyr  
 50 55 60

Ala Ser Trp Met Val His Leu Gly Gly Ala Arg Leu Ile Thr Asn Val  
 65 70 75 80

Ala Asp Lys Val Gly Val His Phe Asn Pro Phe Val Asn Trp  
 85 90 95

Asn Asp Arg Lys Leu Lys Tyr Gly Val Val Arg Met His Asp Leu Val  
 100 105 110

Gln Asp Ile Leu Asp Trp Lys Arg Phe Tyr Leu Ser Gly Arg Leu Gln  
 115 120 125

Lys Pro Val His Met Leu Val Asp Asn Leu Asp Ile Glu Asp Val Asn  
 130 135 140

Ser Val Asn Lys Arg Ala Ala Ile Ser Ala Ala Leu Leu Leu Pro  
 145 150 155 160

Ser Lys Phe Thr Glu Glu Asp Leu Tyr Ala Lys Ile Cys Ser Leu Ser  
 165 170 175

Tyr Met Gly Asp Leu Arg Met Phe Phe Ala Glu Asp Thr Asn Lys Val  
 180 185 190

Asn Lys Ile Val Lys Gly Gln Phe Asp Leu Phe Gln Ser Met Tyr Lys  
 195 200 205

Pro Phe Leu Glu Glu Cys Glu Thr Lys Asn Leu Leu Arg Phe Ser Ser  
 210 215 220

Ala Glu Ala Ser His Thr Lys Leu Val Gln Asp Ser Ser Leu Ser Ala  
 225 230 235 240

Thr Arg Ser Leu Val Ser Ser Leu Pro Ala Ser Val Arg Ser Gln Met  
 245 250 255

Gly Lys Ser Leu Gly Glu Lys Lys Phe Val Ser Glu Thr Gly Arg Val  
 260 265 270

Met Gly Glu Val Cys Ile Ser Ser Arg Glu Glu Ala Ala Lys Cys Met

275

280

285

Glu Lys Val Met Arg Arg Arg Val Met Val Ser Ser Gly Arg Gln Ala  
290 295 300

Val Ser Gly Phe Leu Ala Ala Gly Ala Ile Asn Ala Thr Met Tyr Leu  
305 310 315 320

Ser Gln Lys Met Arg Lys Ala Trp Asn Ser Arg Ala  
325 330

<210> 26

<211> 983

<212> DNA

<213> Homo sapiens

<400> 26

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agacgctcgt catccccaaag aatgcggcgg aggagcagaa gctcaagctg gagccgctca 180  
tgaagaaccc ggacaaagca gttccaaattc cagagaaaaat gagtgaatgg gcacccctcgac 240  
ctccccccaga atttgcgttca gatgtcatgg gttcaagtgc tggggccgc agtgagagt 300  
tccacgtgtta cagacatctg cgccggagag aatatcagcg acaggactac atggatgcca 360  
tggctgagaa gcaaaaattt gatgcagagt ttcagaaaaag actggaaaaag aataaaattt 420  
ctgcagagga gcagaccgca aagcgcggc agaagcgcgc gaagttaaaa gagaagaaat 480  
tactggcaaa gaagatgaaa cttgaacaga agaaacaaga aggaccggc cagcccaagg 540  
agcaggggtc cagcagctc gcccggagag aatatcagcg acaggactac atggatgcca 600  
gttccaccat ggggcgatga caatgtttgc cacaggctct gccttggacc tggctcgatgc 660  
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cgtgctctg gtaaaggggg acagagagcc tcaccttgcc acatatttga acagtgtatga 900  
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<210> 27

<211> 184

<212> PRT

<213> Homo sapiens

<400> 27

Met Ala Ser Pro Ala Ala Ser Ser Val Arg Pro Pro Arg Pro Lys Lys  
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Glu Pro Gln Thr Leu Val Ile Pro Lys Asn Ala Ala Glu Glu Gln Lys  
20 25 30

Leu Lys Leu Glu Arg Leu Met Lys Asn Pro Asp Lys Ala Val Pro Ile  
35 40 45

Pro Glu Lys Met Ser Glu Trp Ala Pro Arg Pro Pro Pro Glu Phe Val  
50 55 60

Arg Asp Val Met Gly Ser Ser Ala Gly Ala Gly Ser Gly Glu Phe His  
65 70 75 80

Val Tyr Arg His Leu Arg Arg Arg Glu Tyr Gln Arg Gln Asp Tyr Met  
85 90 95

Asp Ala Met Ala Glu Lys Gln Lys Leu Asp Ala Glu Phe Gln Lys Arg  
100 105 110

Leu Glu Lys Asn Lys Ile Ala Ala Glu Glu Gln Thr Ala Lys Arg Arg  
115 120 125

Lys Lys Arg Gln Lys Leu Lys Glu Lys Lys Leu Leu Ala Lys Lys Met  
130 135 140

Lys Leu Glu Gln Lys Lys Gln Glu Gly Pro Gly Gln Pro Lys Glu Gln  
145 150 155 160

Gly Ser Ser Ser Ala Glu Ala Ser Gly Thr Glu Glu Glu Glu Glu  
165 170 175

Val Pro Ser Phe Thr Met Gly Arg  
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<210> 28

<211> 983

<212> DNA

<213> Homo sapiens

<400> 28

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tgtccccctt taccaggagc acggatgggt tctgcaaggc agtgcctctg agtgtcaggg 180  
agatggcccc tcaggtctcc aaacctgcca aatacaggac tgtgagcgcc tcgggagggg 240  
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aagtttcatc ttcttgcca gtaatttctt ctcttttaac ttctggcgt tcttcggcg 540  
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caagtatgac gacacagccg cgg 983

<210> 29

<211> 184

<212> PRT

<213> Homo sapiens

<400> 29

Met Ala Ser Pro Ala Ala Ser Ser Val Arg Pro Pro Arg Pro Lys Lys  
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<210> 30
<211> 186
<212> PRT
<213> Mus musculus

<400> 30
Met Ala Ser Pro Ala Ala Ala Ser Val Arg Pro Pro Arg Pro Lys Lys
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Glu Pro Gln Thr Leu Val Ile Pro Lys Asn Ala Ala Glu Glu Gln Lys
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Leu Lys Leu Glu Arg Leu Met Lys Asn Pro Asp Lys Ala Val Pro Ile
 35           40           45

Pro Glu Lys Met Asn Glu Trp Ala Pro Arg Ala Pro Pro Glu Phe Val
 50           55           60

Arg Asp Val Met Gly Ser Ser Ala Gly Ala Gly Ser Gly Glu Phe His
 65           70           75           80

Val Tyr Arg His Leu Arg Arg Glu Tyr Gln Arg Gln Asp Tyr Met
 85           90           95

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Asp Ala Met Ala Glu Lys Gln Lys Leu Asp Ala Glu Phe Gln Lys Arg  
100 105 110

Leu Glu Lys Asn Lys Ile Ala Ala Glu Glu Gln Thr Ala Lys Arg Arg  
115 120 125

Lys Lys Arg Gln Lys Leu Lys Glu Lys Lys Leu Leu Ala Lys Lys Met  
130 135 140

Lys Leu Glu Gln Lys Lys Gln Lys Glu Glu Pro Ser Gln Cys Gln Glu  
145 150 155 160

Gln His Ala Ser Ser Ser Asp Glu Ala Ser Glu Thr Glu Glu Glu Glu  
165 170 175

Glu Glu Pro Ser Val Leu Ile Met Gly Arg  
180 185

<210> 31

<211> 186

<212> PRT

<213> Mus musculus

<400> 31

Met Ala Ser Pro Ala Ala Ser Val Arg Pro Pro Arg Pro Lys Lys  
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Glu Pro Gln Thr Leu Val Ile Pro Lys Asn Ala Ala Glu Glu Gln Lys  
20 25 30

Leu Lys Leu Glu Arg Leu Met Lys Asn Pro Asp Lys Ala Val Pro Ile  
35 40 45

Pro Glu Lys Met Asn Glu Trp Ala Pro Arg Ala Pro Pro Glu Phe Val  
50 55 60

Arg Asp Val Met Gly Ser Ser Ala Gly Ala Gly Ser Gly Glu Phe His  
65 70 75 80

Val Tyr Arg His Leu Arg Arg Glu Tyr Gln Arg Gln Asp Tyr Met  
85 90 95

Asp Ala Met Ala Glu Lys Gln Lys Leu Asp Ala Glu Phe Gln Lys Arg  
100 105 110

Leu Glu Lys Asn Lys Ile Ala Ala Glu Glu Gln Thr Ala Lys Arg Arg  
115 120 125

Lys Lys Arg Gln Lys Leu Lys Glu Lys Lys Leu Leu Ala Lys Lys Met  
130 135 140

Lys Leu Glu Gln Lys Lys Gln Lys Glu Glu Pro Ser Gln Cys Gln Glu  
145 150 155 160

Gln His Ala Ser Ser Ser Asp Glu Ala Ser Glu Thr Glu Glu Glu

165

170

175

Glu Glu Pro Ser Val Val Ile Met Gly Arg  
180 185

<210> 32  
<211> 148  
<212> PRT  
<213> *Mus musculus*

<400> 32  
Met Lys Asn Pro Asp Lys Ala Val Pro Ile Pro Glu Lys Met Asn Glu  
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Trp Ala Pro Arg Ala Pro Pro Glu Phe Val Arg Asp Val Met Gly Ser  
20 25 30

Ser Ala Gly Ala Gly Ser Gly Glu Phe His Val Tyr Arg His Leu Arg  
35 40 45

Arg Arg Glu Tyr Gln Arg Gln Asp Tyr Met Asp Ala Met Ala Glu Lys  
50 55 60

Gln Lys Leu Asp Ala Glu Phe Gln Lys Arg Leu Glu Lys Asn Lys Ile  
65 70 75 80

Ala Ala Glu Glu Gln Thr Ala Lys Arg Arg Lys Lys Arg Gln Lys Leu  
85 90 95

Lys Glu Lys Lys Leu Leu Ala Lys Lys Met Lys Leu Glu Gln Lys Lys  
100 105 110

Gln Lys Glu Glu Pro Ser Gln Cys Gln Glu Gln His Ala Ser Ser Ser  
115 120 125

Asp Glu Ala Ser Glu Thr Glu Glu Glu Glu Glu Pro Ser Val Val  
130 135 140

Ile Met Gly Arg  
145

<210> 33  
<211> 253  
<212> PRT  
<213> *Drosophila melanogaster*

<400> 33  
Met Ser Leu Ile Lys Asn Leu Val Lys Glu Pro Glu Gln Lys Ala Lys  
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Lys Lys Lys Asn Ala Gly Ser Gly Glu Ser Asp Ser Asp Glu Lys  
20 25 30

Asp Lys Pro Leu Arg Pro Phe Ile Lys Thr Ala Thr Asp Leu Gln Arg  
35 40 45

Leu Lys Leu Glu Lys Leu Met Lys Asn Pro Asp Lys Pro Val Val Ile  
 50 55 60  
 Pro Glu Gln Arg Arg Glu Arg Asp Phe Met Ser Ser Val Pro Thr Phe  
 65 70 75 80  
 Val Arg Asn Val Met Gly Ser Ser Ala Gly Ala Gly Ser Gly Glu Phe  
 85 90 95  
 His Val Tyr Arg His Leu Arg Arg Lys Glu Tyr Ala Arg Gln Lys Asn  
 100 105 110  
 Ile Gln Asn Gln Ser Ala Arg Glu Ala Ala Asp Glu Ala Tyr Gln Gln  
 115 120 125  
 Lys Leu Asp Asp Asn Arg Arg Ala Ala Glu Glu Lys Thr Ala Lys Lys  
 130 135 140  
 Arg Ala Lys Arg Leu Lys Arg Lys Gln Arg Ala Lys Lys Pro Arg Glu  
 145 150 155 160  
 Asp Lys Lys Pro Leu Ala Lys Glu Ala Ser Glu Asp Ser Asn Thr Asp  
 165 170 175  
 Ser Glu Glu Glu Pro Thr Glu Glu Lys Ala Glu Ser Ser Pro Glu Glu  
 180 185 190  
 Gly Gln Gln Val Ala Ser Lys Glu Ser Asp Asp Asn Asn Thr Gln Glu  
 195 200 205  
 Thr Ser Asn Glu Glu Ala Val Asn Ser Asn Thr Glu Ala Lys Ser Ala  
 210 215 220  
 Glu Asp Thr Asn Ala Val Glu Leu Asp Ser Thr Glu Ala Thr Lys Glu  
 225 230 235 240  
 Ser Gln Asn Val Asp Gln Glu Gln Asp Lys Pro Val Pro  
 245 250

<210> 34  
 <211> 2456  
 <212> DNA  
 <213> Homo sapiens

<400> 34  
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 aaggctttgg tgcgctctga ctttcttctg gtgtatgggg atgtcatctc aaacatcaat 240  
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gagatcctag ggaaccagat ccacatgcac gtaacagcta aggaatatgg tgccctgtc 660  
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 aacatctacc gaggcctga ggtcagcctg ggccatggca gcatcctaga ggaaaatgtg 840  
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<210> 35  
 <211> 366  
 <212> PRT  
 <213> Homo sapiens

<400> 35  
 Met Cys Ser Trp Ala Leu Ala Leu Ser Leu Ala Ala Ile Ala Leu Ser  
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Pro Thr Val Ser Leu Ala Pro Ala Ala Thr Leu Val Ser Thr Gly Asp  
 20 25 30

Asn Val Val Leu Asp Gln Thr Tyr Leu Trp Gln Gly Val Arg Val Ala  
 35 40 45

Ala Gly Ala Gln Ile His Gln Ser Leu Leu Cys Asp Asn Ala Glu Val  
 50 55 60

Lys Glu Arg Val Thr Leu Lys Pro Arg Ser Val Leu Thr Ser Gln Val  
 65 70 75 80

Val Val Gly Pro Asn Ile Thr Leu Pro Glu Gly Ser Val Ile Ser Leu  
 85 90 95

His	Pro	Pro	Asp	Ala	Glu	Glu	Asp	Glu	Asp	Asp	Gly	Glu	Phe	Ser	Asp
				100			105					110			
Asp	Ser	Gly	Ala	Asp	Gln	Glu	Lys	Asp	Lys	Val	Lys	Met	Lys	Gly	Tyr
	115				120						125				
Asn	Pro	Ala	Glu	Val	Gly	Ala	Ala	Gly	Lys	Gly	Tyr	Leu	Trp	Lys	Ala
		130			135				140						
Ala	Gly	Met	Asn	Met	Glu	Glu	Glu	Glu	Leu	Gln	Gln	Asn	Leu	Trp	
	145			150			155			160					
Gly	Leu	Lys	Ile	Asn	Met	Glu	Glu	Glu	Ser	Glu	Ser	Glu	Ser	Gln	
	165				170				175						
Ser	Met	Asp	Ser	Glu	Glu	Pro	Asp	Ser	Arg	Gly	Gly	Ser	Pro	Gln	Met
	180					185				190					
Asp	Asp	Ile	Lys	Val	Phe	Gln	Asn	Glu	Val	Leu	Gly	Thr	Leu	Gln	Arg
	195				200				205						
Gly	Lys	Glu	Glu	Asn	Ile	Ser	Cys	Asp	Asn	Leu	Val	Leu	Glu	Ile	Asn
	210				215				220						
Ser	Leu	Lys	Tyr	Ala	Tyr	Asn	Ile	Ser	Leu	Lys	Glu	Val	Met	Gln	Val
	225				230			235			240				
Leu	Ser	His	Val	Val	Leu	Glu	Phe	Pro	Leu	Gln	Gln	Met	Asp	Ser	Pro
	245					250			255						
Leu	Asp	Ser	Ser	Arg	Tyr	Cys	Ala	Leu	Leu	Leu	Pro	Leu	Leu	Lys	Ala
	260					265			270						
Trp	Ser	Pro	Val	Phe	Arg	Asn	Tyr	Ile	Lys	Arg	Ala	Ala	Asp	His	Leu
	275				280				285						
Glu	Ala	Leu	Ala	Ala	Ile	Glu	Asp	Phe	Phe	Leu	Glu	His	Glu	Ala	Leu
	290				295				300						
Gly	Ile	Ser	Met	Ala	Lys	Val	Leu	Met	Ala	Phe	Tyr	Gln	Leu	Glu	Ile
	305				310			315			320				
Leu	Ala	Glu	Glu	Thr	Ile	Leu	Ser	Trp	Phe	Ser	Gln	Arg	Asp	Thr	Thr
	325					330				335					
Asp	Lys	Gly	Gln	Gln	Leu	Arg	Lys	Asn	Gln	Gln	Leu	Gln	Arg	Phe	Ile
	340					345				350					
Gln	Trp	Leu	Lys	Glu	Ala	Glu	Glu	Ser	Ser	Glu	Asp	Asp			
	355				360			365							

<210> 36  
 <211> 2456  
 <212> DNA  
 <213> Homo sapiens

<400> 36

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cagaatccat actttgctca ctttcaactt cactcttcc ttccatgtt atcttgagtc 1140  
cccacagatt ctgctgcagt tcctccctt cctccatgtt catgcctgca gtttccaga 1200  
ggtagccctt gccagcagct cctacttctg ctggattgtt acctttcatc ttcactttgt 1260  
cctttcttg gtcagccccaa gaatcatcac tgaactcgcc atcatcttca tcttcctctg 1320  
catctggagg gtgcaaaagag atcaccgagc cctcaggcag cgtgatattt gggcccacga 1380  
ccacctggaa agtggggaca gacgtgggtt tcagtgtcac tcggttcctt acctcagcat 1440  
tgtcacaaag cagagactga tggatctgtt ctccagccgc cactcgaaca ccctgcccaca 1500  
ggtaggtctg gtccagcacc acgttatcac ctgtgctcac caatgtggca gccggggcca 1560  
atgacactgt tggtgataaa gcaattgtctt ccaatgacag tgccagagcc caggagcaca 1620  
ttttccctcta ggtatgtgc atggcccagg ctgaccctcag gcccctggta gatgttggtc 1680  
cggaatgag tgcagctctg ggtgggtctg tcagtgaagt tcggttcctt ggtgagaggg 1740  
tagacccatc ggcggatgac gtcagcacag acagctgagt acatgtgttag gttggagaca 1800  
cgggcaccat attccttgc tggtacgtgc atgtggatct gtttccctt gatctcctca 1860  
ttcactaaga gacctcgcac aaagtcatct cgagtttggt agtcaaagg tctgtaaag 1920  
agttgtgcca cctgaggaga acagatgctg atatgacaat ccagtaaatc atatcgaacc 1980  
tccactccat cactactgac ctgaaacagg ctcagaggaa atgcaaaacg ccggagaccc 2040  
tgggtcttctt gaaaatggag aaccctgttt gtggactat ccacagccac taccacattt 2100  
tcttcgtggc aacgagttgg gtggctgggg gatgacttctt tgaagatcat cgtcatcaca 2160  
gaaacatttt tttctagctt ccgtctcaac ctgtgttctt caagggtctt ggtgatattt 2220  
atgtttgaga tgacatcccc atacaccaga agaaagttag agcgcacccaa agccttggca 2280  
tcaacatcac ggaggacatc tcccagtgtat cgatagagct ctgtatgtat tattcgaacc 2340  
acattgagag atgttagggcg gcaccactt gacttcagta aatgttctt gatttgagca 2400  
gctttccagc aacaaaagac aaatgtttcc tgcacaccc tggcagtcag gaattc 2456

<210> 37

<211> 641

<212> PRT

<213> Homo sapiens

<400> 37

Glu Phe Leu Thr Ala Thr Gly Val Gln Glu Thr Phe Val Phe Cys Cys  
1 5 10 15

Trp Lys Ala Ala Gln Ile Lys Glu His Leu Leu Lys Ser Lys Trp Cys  
20 25 30

Arg Pro Thr Ser Leu Asn Val Val Arg Ile Ile Thr Ser Glu Leu Tyr

35	40	45
Arg Ser Leu Gly Asp Val Leu Arg Asp Val Asp Ala Lys Ala Leu Val		
50	55	60
Arg Ser Asp Phe Leu Leu Val Tyr Gly Asp Val Ile Ser Asn Ile Asn		
65	70	75
Ile Thr Arg Ala Leu Glu Glu His Arg Leu Arg Arg Lys Leu Glu Lys		
85	90	95
Asn Val Ser Val Met Thr Met Ile Phe Lys Glu Ser Ser Pro Ser His		
100	105	110
Pro Thr Arg Cys His Glu Asp Asn Val Val Val Ala Val Asp Ser Thr		
115	120	125
Thr Asn Arg Val Leu His Phe Gln Lys Thr Gln Gly Leu Arg Arg Phe		
130	135	140
Ala Phe Pro Leu Ser Leu Phe Gln Gly Ser Ser Asp Gly Val Glu Val		
145	150	155
160		
Arg Tyr Asp Leu Leu Asp Cys His Ile Ser Ile Cys Ser Pro Gln Val		
165	170	175
Ala Gln Leu Phe Thr Asp Asn Phe Asp Tyr Gln Thr Arg Asp Asp Phe		
180	185	190
Val Arg Gly Leu Leu Val Asn Glu Glu Ile Leu Gly Asn Gln Ile His		
195	200	205
Met His Val Thr Ala Lys Glu Tyr Gly Ala Arg Val Ser Asn Leu His		
210	215	220
Met Tyr Ser Ala Val Cys Ala Asp Val Ile Arg Arg Trp Val Tyr Pro		
225	230	235
240		
Leu Thr Pro Glu Ala Asn Phe Thr Asp Ser Thr Thr Gln Ser Cys Thr		
245	250	255
His Ser Arg His Asn Ile Tyr Arg Gly Pro Glu Val Ser Leu Gly His		
260	265	270
Gly Ser Ile Leu Glu Glu Asn Val Leu Leu Gly Ser Gly Thr Val Ile		
275	280	285
Gly Ser Asn Cys Phe Ile Thr Asn Ser Val Ile Gly Pro Gly Cys His		
290	295	300
Ile Gly Asp Asn Val Val Leu Asp Gln Thr Tyr Leu Trp Gln Gly Val		
305	310	315
320		
Arg Val Ala Ala Gly Ala Gln Ile His Gln Ser Leu Leu Cys Asp Asn		
325	330	335
Ala Glu Val Lys Glu Arg Val Thr Leu Lys Pro Arg Ser Val Leu Thr		

340	345	350
Ser Gln Val Val Val Gly Pro Asn Ile Thr Leu Pro Glu Gly Ser Val		
355	360	365
Ile Ser Leu His Pro Pro Asp Ala Glu Glu Asp Glu Asp Asp Gly Glu		
370	375	380
Phe Ser Asp Asp Ser Gly Ala Asp Gln Glu Lys Asp Lys Val Lys Met		
385	390	395
Lys Gly Tyr Asn Pro Ala Glu Val Gly Ala Ala Gly Lys Gly Tyr Leu		
405	410	415
Trp Lys Ala Ala Gly Met Asn Met Glu Glu Glu Glu Glu Leu Gln Gln		
420	425	430
Asn Leu Trp Gly Leu Lys Ile Asn Met Glu Glu Glu Ser Glu Ser Glu		
435	440	445
Ser Glu Gln Ser Met Asp Ser Glu Glu Pro Asp Ser Arg Gly Gly Ser		
450	455	460
Pro Gln Met Asp Asp Ile Lys Val Phe Gln Asn Glu Val Leu Gly Thr		
465	470	475
480		
Leu Gln Arg Gly Lys Glu Glu Asn Ile Ser Cys Asp Asn Leu Val Leu		
485	490	495
Glu Ile Asn Ser Leu Lys Tyr Ala Tyr Asn Val Ser Leu Lys Glu Val		
500	505	510
Met Gln Val Leu Ser His Val Val Leu Glu Phe Pro Leu Gln Gln Met		
515	520	525
Asp Ser Pro Leu Asp Ser Ser Arg Tyr Cys Ala Leu Leu Leu Pro Leu		
530	535	540
Leu Lys Ala Trp Ser Pro Val Phe Arg Asn Tyr Ile Lys Arg Ala Ala		
545	550	555
560		
Asp His Leu Glu Ala Leu Ala Ala Ile Glu Asp Phe Phe Leu Glu His		
565	570	575
Glu Ala Leu Gly Ile Ser Met Ala Lys Val Leu Met Ala Phe Tyr Gln		
580	585	590
Leu Glu Ile Leu Ala Glu Glu Thr Ile Leu Ser Trp Phe Ser Gln Arg		
595	600	605
Asp Thr Thr Asp Lys Gly Gln Gln Leu Arg Lys Asn Gln Gln Leu Gln		
610	615	620
Arg Phe Ile Gln Trp Leu Lys Glu Ala Glu Glu Glu Ser Ser Glu Asp		
625	630	635
640		
Asp		

<210> 38  
 <211> 721  
 <212> PRT  
 <213> Oryctolagus cuniculus

<400> 38  
 Met Ala Thr Thr Val Val Ala Pro Pro Gly Ala Val Ser Asp Arg Ala  
 1 5 10 15

Asn Lys Arg Gly Gly Gly Pro Gly Gly Gly Gly Gly Gly Ala  
 20 25 30

Arg Gly Ala Glu Glu Glu Ser Pro Pro Pro Leu Gln Ala Val Leu Val  
 35 40 45

Ala Asp Ser Phe Asn Arg Arg Phe Phe Pro Ile Ser Lys Asp Gln Pro  
 50 55 60

Arg Val Leu Leu Pro Leu Ala Asn Val Ala Leu Ile Asp Tyr Thr Leu  
 65 70 75 80

Glu Phe Leu Thr Ala Thr Gly Val Gln Glu Thr Phe Val Phe Cys Cys  
 85 90 95

Trp Lys Ala Ala Gln Ile Lys Glu His Leu Gln Lys Ser Lys Trp Cys  
 100 105 110

Arg Pro Thr Ser Leu Asn Val Val Arg Ile Ile Thr Ser Glu Leu Tyr  
 115 120 125

Arg Ser Leu Gly Asp Val Leu Arg Asp Val Asp Ala Lys Ala Leu Val  
 130 135 140

Arg Ser Asp Phe Leu Leu Val Tyr Gly Asp Val Val Ser Asn Ile Asn  
 145 150 155 160

Val Thr Arg Ala Leu Glu Glu His Arg Leu Arg Arg Lys Leu Glu Lys  
 165 170 175

Asn Val Ser Val Met Thr Met Ile Phe Lys Glu Ser Ser Pro Ser His  
 180 185 190

Pro Thr Arg Cys His Glu Asp Asn Val Val Val Ala Val Asp Ser Ala  
 195 200 205

Thr Asn Arg Ile Leu His Phe Gln Lys Thr Gln Gly Leu Arg Arg Phe  
 210 215 220

Ser Phe Pro Leu Ser Leu Phe Gln Gly Ser Gly Ala Gly Val Glu Ile  
 225 230 235 240

Arg Tyr Asp Leu Leu Asp Cys His Ile Ser Ile Cys Ser Pro Gln Val  
 245 250 255

Ala Gln Leu Phe Thr Asp Asn Phe Asp Tyr Gln Thr Arg Asp Asp Phe  
 260 265 270  
 Val Arg Gly Leu Leu Val Asn Glu Glu Ile Leu Gly Asn Gln Ile His  
 275 280 285  
 Met His Val Thr Thr Arg Glu Tyr Gly Ala Arg Val Ser Asn Leu His  
 290 295 300  
 Met Tyr Ser Ala Val Cys Ala Asp Val Ile Arg Arg Trp Val Tyr Pro  
 305 310 315 320  
 Leu Thr Pro Glu Ala Asn Phe Thr Asp Ser Thr Ala Gln Ser Cys Thr  
 325 330 335  
 His Ser Arg His Asn Ile Tyr Arg Gly Pro Glu Val Ser Leu Gly His  
 340 345 350  
 Gly Ser Ile Leu Glu Glu Asn Val Leu Leu Gly Ser Gly Thr Val Ile  
 355 360 365  
 Gly Ser Asn Cys Ser Ile Thr Asn Ser Val Ile Gly Pro Gly Cys Cys  
 370 375 380  
 Ile Gly Asp Asn Val Val Leu Asp Arg Ala Tyr Leu Trp Lys Gly Val  
 385 390 395 400  
 Gln Val Ala Ser Gly Ala Gln Ile His Gln Ser Leu Leu Cys Asp His  
 405 410 415  
 Ala Glu Val Lys Glu Gln Val Thr Leu Lys Pro His Cys Val Leu Thr  
 420 425 430  
 Ser Gln Val Val Val Gly Pro Asn Ile Thr Leu Pro Glu Gly Ser Val  
 435 440 445  
 Ile Ser Leu His Pro Pro Asp Ala Glu Glu Asp Glu Asp Asp Gly Gln  
 450 455 460  
 Phe Ser Asp Asp Ser Gly Val Asn Gln Ala Lys Glu Lys Ala Lys Leu  
 465 470 475 480  
 Lys Gly Tyr Asn Pro Ala Glu Val Gly Val Ala Gly Lys Gly Tyr Leu  
 485 490 495  
 Trp Lys Ala Ala Asp Met Asn Thr Glu Lys Glu Glu Leu Arg Gln  
 500 505 510  
 Ser Leu Trp Gly Leu Thr Ile Asn Glu Glu Glu Ser Glu Thr Glu  
 515 520 525  
 Ser Glu Arg Ser Met Asp Ser Glu Glu Leu Asp Ser Arg Ala Gly Ser  
 530 535 540  
 Pro Gln Leu Asp Asp Ile Lys Val Phe Gln Asn Glu Val Leu Gly Thr  
 545 550 555 560

Leu Gln Arg Gly Lys Glu Glu Ser Ile Ser Cys Asp Asn Leu Ile Leu  
 565 570 575  
 Glu Ile Asn Ser Leu Lys Tyr Ala Tyr Asn Ile Ser Leu Lys Glu Val  
 580 585 590  
 Met Gln Val Leu Ser His Val Val Leu Glu Phe Pro Leu Gln Gln Met  
 595 600 605  
 Asp Ser Pro Leu Glu Ala Asn Arg Tyr Cys Ala Leu Leu Leu Pro Leu  
 610 615 620  
 Leu Lys Ala Trp Ser Pro Val Phe Arg Asn Tyr Ile Lys Arg Ala Ala  
 625 630 640  
 Asp His Leu Glu Ala Leu Ala Ala Ile Glu Glu Phe Phe Leu Glu His  
 645 650 655  
 Glu Ala Leu Gly Thr Cys Ile Ala Lys Val Leu Met Gly Phe Tyr Gln  
 660 665 670  
 Leu Glu Ile Leu Ala Glu Glu Thr Ile Leu Ser Trp Phe Gly Gln Arg  
 675 680 685  
 Asp Val Thr Asp Lys Gly Arg Gln Leu Arg Lys Asn Gln Gln Leu Gln  
 690 695 700  
 Arg Phe Ile Gln Trp Leu Lys Glu Ala Glu Glu Ser Ser Glu Asp  
 705 710 715 720  
 Asp

<210> 39  
 <211> 716  
 <212> PRT  
 <213> Rattus norvegicus

<400> 39  
 Met Ala Ala Thr Ala Ala Val Pro Ser Ala Val Gly Gly Arg Ala Asn  
 1 5 10 15  
 Lys Arg Gly Gly Ser Gly Gly Gly Thr Gln Gly Ala Glu Glu  
 20 25 30  
 Glu Pro Pro Pro Pro Leu Gln Ala Val Leu Val Ala Asp Ser Phe Asp  
 35 40 45  
 Arg Arg Phe Phe Pro Ile Ser Lys Asp Gln Pro Arg Val Leu Leu Pro  
 50 55 60  
 Leu Ala Asn Val Ala Leu Ile Asp Tyr Thr Leu Glu Phe Leu Thr Ala  
 65 70 75 80  
 Thr Gly Val Gln Glu Thr Phe Val Phe Cys Cys Trp Lys Ala Ala Gln  
 85 90 95

Ile	Lys	Glu	His	Leu	Gln	Lys	Ser	Lys	Trp	Cys	His	Pro	Thr	Ser	Leu
100															110
Asn	Val	Val	Arg	Ile	Thr	Thr	Ser	Asp	Leu	Tyr	Arg	Ser	Leu	Gly	Asp
115															125
Val	Leu	Arg	Asp	Val	Asp	Ala	Lys	Ala	Leu	Val	Arg	Ser	Asp	Phe	Leu
130															140
Leu	Ile	Tyr	Gly	Asp	Val	Val	Ser	Asn	Ile	Asn	Ile	Ser	Lys	Ala	Leu
145															160
Glu	Glu	His	Arg	Leu	Arg	Arg	Lys	Leu	Glu	Lys	Asn	Val	Ser	Val	Met
															175
165															
Thr	Met	Val	Phe	Lys	Glu	Ser	Ser	Pro	Ser	His	Pro	Thr	Arg	Cys	His
															190
Glu	Asp	Asn	Val	Val	Leu	Ala	Val	Asp	Ser	Thr	Thr	Asn	Arg	Ile	Leu
															205
195															
His	Phe	Gln	Lys	Thr	Gln	Gly	Leu	Arg	His	Phe	Ser	Phe	Pro	Leu	Gly
															220
210															
Leu	Phe	Gln	Gly	Ser	Leu	Asp	Gly	Val	Glu	Ile	Arg	Tyr	Asp	Leu	Leu
															240
225															
Asp	Cys	His	Ile	Ser	Ile	Cys	Ser	Pro	Gln	Val	Ala	Gln	Leu	Phe	Thr
															255
Asp	Asn	Phe	Asp	Tyr	Gln	Thr	Arg	Asp	Asp	Phe	Val	Arg	Gly	Leu	Leu
															270
Val	Asn	Glu	Glu	Ile	Leu	Gly	Asn	Gln	Ile	His	Leu	His	Val	Thr	Ser
															285
275															
Arg	Glu	Tyr	Gly	Ser	Arg	Val	Ser	Asn	Leu	His	Met	Tyr	Ser	Ala	Val
															300
290															
Cys	Thr	Asp	Val	Ile	Arg	Arg	Trp	Val	Tyr	Pro	Leu	Thr	Pro	Glu	Val
															320
305															
Asn	Phe	Thr	Asp	Ser	Ser	Thr	Gln	Ser	Tyr	Thr	His	Ser	Arg	His	Asn
															335
325															
Ile	Tyr	Arg	Gly	Pro	Glu	Val	Ser	Leu	Gly	His	Gly	Ser	Val	Leu	Glu
															350
340															
Glu	Asn	Val	Leu	Leu	Gly	Ala	Gly	Thr	Val	Val	Gly	Ser	Asn	Cys	Ser
															365
355															
Ile	Thr	Asn	Ser	Val	Ile	Gly	Pro	Asn	Cys	His	Ile	Gly	Asp	Asn	Val
															380
370															
Val	Leu	Asp	Gln	Ala	Tyr	Leu	Trp	Gln	Gly	Val	Arg	Val	Ala	Ala	Gly
															400
385															
390															
395															

Ala Gln Ile His Gln Ser Leu Leu Cys Asp Arg Ala Glu Val Lys Glu  
 405 410 415

Arg Val Ile Leu Lys Pro His Cys Val Leu Thr Ser Gln Val Val Val  
 420 425 430

Gly Pro Asp Ile Ile Leu Pro Glu Gly Ser Val Ile Ser Leu His Pro  
 435 440 445

Pro Asp Ala Glu Glu Asp Glu Asp Asp Gly Gln Phe Ser Asp Asp Ser  
 450 455 460

Gly Ala Asp Gln Glu Lys Glu Lys Val Lys Leu Lys Gly Tyr Asn Pro  
 465 470 475 480

Ala Glu Val Gly Pro Glu Gly Gln Gly Tyr Leu Trp Lys Ala Glu Asp  
 485 490 495

Val Asp Glu Lys Glu Asp Glu Glu Leu Arg Gln Ser Leu Trp Gly Leu  
 500 505 510

Met Ile Asn Met Glu Glu Glu Ser Glu Thr Glu Ser Glu Arg Ser Val  
 515 520 525

Asp Pro Glu Glu Leu Asp Ser Arg Ala Gly Ser Pro Gln Leu Asp Asp  
 530 535 540

Ile Arg Val Phe Gln Asn Glu Val Leu Gly Thr Leu Gln Arg Gly Arg  
 545 550 555 560

Glu Glu Asn Ile Ser Cys Asp Asn Leu Val Leu Glu Ile Asn Ser Leu  
 565 570 575

Lys Tyr Ala Tyr Asn Ile Ser Leu Lys Glu Val Met Gln Val Leu Ser  
 580 585 590

His Val Val Leu Glu Phe Pro Leu Gln Gln Val Asp Gly Val Leu Asp  
 595 600 605

Pro Asn Arg Tyr Cys Ala Leu Leu Leu Pro Leu Leu Lys Ala Trp Ser  
 610 615 620

Pro Val Phe Arg Asn Tyr Ile Lys Arg Ala Ala Asp His Leu Glu Ala  
 625 630 635 640

Leu Ala Ala Ile Glu Asp Phe Phe Leu Glu His Glu Thr Leu Val Pro  
 645 650 655

Ser Leu Ala Lys Val Leu Met Ala Phe Tyr Gln Leu Glu Ile Leu Ala  
 660 665 670

Glu Glu Thr Ile Leu Ser Trp Phe Ser Gln Arg Asp Ile Thr Asp Lys  
 675 680 685

Gly Gln Gln Leu Arg Lys Asn Gln Gln Leu Gln Arg Phe Ile Gln Trp  
 690 695 700

Leu Arg Glu Ala Glu Glu Glu Ser Ser Asp Asp Asp  
705 710 715

<210> 40  
<211> 730  
<212> PRT  
<213> Arabidopsis thaliana

<400> 40  
Met Gly Ala Gln Lys Lys Gly Gly Ala Ala Ala Arg Val Ser Glu Asp  
1 5 10 15

Ala Glu Val Gln Ser Arg His Arg Leu Gln Ala Ile Leu Leu Ala Asp  
20 25 30

Ser Phe Ala Thr Lys Phe Arg Pro Val Thr Leu Glu Arg Pro Lys Val  
35 40 45

Leu Leu Pro Ile Val Asn Val Pro Met Ile Asp Tyr Thr Leu Ala Trp  
50 55 60

Leu Glu Ser Ala Gly Ile Glu Glu Val Phe Val Phe Cys Cys Ala His  
65 70 75 80

Ser Met Gln Val Ile Glu Tyr Leu Glu Lys Ser Glu Trp Tyr Ser His  
85 90 95

Pro Asn Leu Leu Val Arg Thr Ile Glu Ser His Lys Ser Ile Ser Ala  
100 105 110

Gly Asp Ala Leu Arg Tyr Met Tyr Glu Gln Gln Thr Glu Thr Ser Gln  
115 120 125

Ile Gln Gly Asp Phe Val Leu Val Ser Gly Asp Thr Val Ser Asn Met  
130 135 140

Pro Leu Ala Asp Leu Ile Gln Glu His Arg Glu Arg Lys Lys Lys Asp  
145 150 155 160

Glu Lys Ala Ile Met Thr Met Val Ile Lys Gln Ser Lys Ser Ser Pro  
165 170 175

Leu Thr His Gln Ser Arg Leu Gly Thr Asp Gln Leu Phe Ile Ala Val  
180 185 190

Asp Pro Leu Thr Lys Gln Leu Leu His Tyr Glu Glu Asp Lys Ile Asp  
195 200 205

His Pro Ser Gly Ser Val Cys Leu Glu Lys Ser Leu Leu Asp Thr Asn  
210 215 220

Pro Ser Val Leu Val Cys Asn Asp Met Gln Asp Cys Tyr Ile Asp Ile  
225 230 235 240

Cys Ser Pro Glu Val Leu Ser Leu Phe Glu Asp Asn Phe Asp Tyr Gln

245	250	255	
His Leu Arg Arg His Phe Val Lys Gly Val Leu Val Asp Asp Ile Met			
260	265	270	
Gly Tyr Lys Ile Phe Thr His Glu Ile His Ser Ser Tyr Ala Gly Arg			
275	280	285	
Ile Asp Asn Phe Arg Ser Tyr Asp Thr Val Ser Lys Asp Ile Ile Gln			
290	295	300	
Arg Trp Thr Tyr Pro Tyr Val Pro Asp Ile Asn Phe Ser Gly Asn Arg			
305	310	315	320
Pro Leu Lys Leu Gly Arg Gln Gly Ile Tyr Lys Ala Ser Asp Val Val			
325	330	335	
Gln Ser Arg Ser Ala Asp Val Gly Ala Ser Thr Val Ile Gly Tyr Gly			
340	345	350	
Thr Lys Ile Gly His Gly Asp Lys Ile Met Asn Ser Val Ile Gly Asn			
355	360	365	
Gly Cys Ser Ile Gly Ser Asn Val Val Ile Glu Gly Ser Tyr Ile Trp			
370	375	380	
Asn Asn Val Thr Ile Glu Asp Gly Cys Glu Ile Arg Asn Ala Ile Val			
385	390	395	400
Cys Asp Gly Val Lys Ile Arg Ala Gly Ala Val Leu Gln Pro Gly Val			
405	410	415	
Val Leu Ser Phe Asn Val Val Gly Arg Asp Phe Val Val Pro Ala			
420	425	430	
Tyr Ser Lys Val Ser Leu Leu Gln Gln Pro Thr Thr Glu Asp Ser Asp			
435	440	445	
Glu Glu Leu Glu Tyr Ala Asp Ser Ser Ser Gly Thr Ala Asp His Leu			
450	455	460	
Ser Gly Leu Asn Leu Gln Met Glu Ser Lys Ala Ser Glu Leu Gly Pro			
465	470	475	480
Asp Gly Ala Gly Tyr Ile Trp Glu Val Cys Glu Gly Ala His Asp Glu			
485	490	495	
Glu Trp Lys His Ser Val Ala Pro Ile Pro Lys Asp Lys Leu Ser Glu			
500	505	510	
Ile Thr Gln Ala Ile Asp Asp Asp Asp Thr Asp Asp Glu Ser Val Val			
515	520	525	
Pro Thr Ser Gly Glu Leu Lys Ser Asp Ala Asp Ser Ile Asn Thr Asp			
530	535	540	
Val Asn Asp Pro Asn Asp Asp Tyr Tyr Tyr Phe Glu Lys Glu Val Glu			

545	550	555	560
Gly Thr Val Leu Arg Ala Val Glu Glu Asn Ile Lys Val Asp Leu Val			
565	570	575	
Thr Met Glu Ile Asn Gly Leu Arg Leu Ser Phe Asn Met Glu Ser Ala			
580	585	590	
Asp Cys Ala Gly Ala Thr Phe Phe Ser Met Ile Lys Leu Ala Leu Asp			
595	600	605	
Thr Pro His Asn Ser Gly Ser Glu Leu Tyr Lys Asn Ala Ala Ser Ile			
610	615	620	
Ile Thr Lys Trp Lys Asp Leu Leu Gly Phe Tyr Ala Lys Lys Ile Asp			
625	630	635	640
Glu Gln Ile Glu Val Ile Met Lys Phe Glu Glu Met Cys Gln Glu Ser			
645	650	655	
His Lys Glu Leu Gly Pro Leu Phe Thr Gln Ile Leu His Leu Leu Tyr			
660	665	670	
Asp Lys Asp Val Leu Gln Glu Asp Ala Ile Leu Arg Trp Glu Glu Glu			
675	680	685	
Lys Ala Gly Ala Asp Glu Ala Asp Lys Val Tyr Leu Lys Gln Cys Asp			
690	695	700	
Thr Phe Ile Gln Trp Leu Lys Glu Ala Ser Glu Glu Glu Asp Glu Asp			
705	710	715	720
Asp Glu Asp Glu Glu Glu Glu Asp Asn			
725	730		
<210> 41			
<211> 676			
<212> PRT			
<213> <i>Arabidopsis thaliana</i>			
<400> 41			
Met Ala Ser Arg Lys Lys Arg Ala Ala Lys Ile Ser Glu Asp Ser Glu			
1	5	10	15
Glu Glu Gln Ser Arg Arg Gln Arg Leu Gln Ala Ile Leu Leu Ala Asp			
20	25	30	
Ser Phe Ala Thr Lys Leu Leu Pro Leu Thr Leu Glu Arg Pro Asn Val			
35	40	45	
Leu Leu Pro Leu Val Asn Ile Pro Met Ile Asp Tyr Thr Leu Ala Trp			
50	55	60	
Leu Glu Ser Ala Gly Ile Glu Glu Val Phe Val Phe Cys Ser Met Gln			
65	70	75	80

Val	Ile	Asp	Tyr	Leu	Asn	Asn	Ser	Asp	Trp	Tyr	Ser	His	Lys	Asp	Phe
					85					90					95
Thr	Val	Lys	Thr	Ile	Glu	Ser	Pro	Gln	Asn	Ser	Thr	Ser	Ala	Gly	Asp
					100				105					110	
Ala	Leu	Arg	Tyr	Ile	Tyr	Glu	Gln	Gln	Ile	Glu	Thr	Ser	Gln	Ile	Gln
					115				120					125	
Gly	Asp	Phe	Val	Leu	Val	Asn	Gly	Cys	Ile	Val	Ser	Asn	Met	Pro	Leu
					130			135					140		
Thr	Gln	Leu	Ile	Gln	Glu	His	Arg	Asp	Arg	Lys	Lys	Lys	Asp	Glu	Lys
					145			150			155				160
Ala	Ile	Met	Thr	Met	Val	Ile	Arg	Gln	Ser	Leu	Ile	Thr	Asp	His	Gln
					165					170				175	
Leu	Phe	Ile	Ala	Val	Asn	Pro	Leu	Thr	Lys	Gln	Leu	Leu	Tyr	Tyr	Asp
					180				185					190	
Glu	Asp	Asn	Ile	Cys	Phe	Asp	Lys	Ser	Leu	Leu	Asp	Arg	Asn	Pro	Ser
					195			200					205		
Val	Leu	Leu	Cys	Ser	Asp	Met	Gln	Asp	Cys	Tyr	Ile	Asp	Ile	Cys	Ser
					210			215					220		
Leu	Glu	Val	Leu	Ser	Leu	Phe	Val	Asp	Asn	Phe	Asp	Tyr	Gln	His	Met
					225			230			235				240
Arg	Cys	Asp	Phe	Val	Glu	Gly	Val	Leu	Ala	Asp	Asp	Ile	Ile	Gly	Tyr
					245					250				255	
Lys	Ile	Phe	Thr	His	Glu	Ile	Ser	Ser	Cys	Tyr	Ala	Ser	Arg	Ile	Glu
					260				265					270	
Asn	Phe	Arg	Ser	Tyr	Asp	Met	Val	Ser	Lys	Asp	Ile	Ile	Gln	Arg	Arg
					275			280					285		
Thr	Phe	Pro	Tyr	Val	Pro	Asp	Met	Lys	Phe	Ser	Gly	Asn	Arg	Thr	Leu
					290			295					300		
Lys	Leu	Glu	Arg	Gln	Gly	Ile	Tyr	Lys	Ala	Ser	Asp	Ala	Thr	Gln	Leu
					305			310			315				320
Pro	Ser	Ala	His	Val	Gly	Ala	Ser	Tyr	Val	Ile	Gly	His	Ala	Thr	Asn
					325					330				335	
Ile	Gly	Ser	Gly	Thr	Lys	Ile	Leu	Asn	Ser	Val	Ile	Gly	Asn	Gly	Cys
					340				345				350		
Ser	Ile	Gly	Ser	Asn	Val	Val	Ile	Gln	Gly	Ser	Tyr	Ile	Trp	Asn	Asn
					355			360					365		
Val	Thr	Val	Glu	Asp	Gly	Cys	Glu	Ile	Arg	Asn	Ala	Ile	Val	Cys	Asp
					370			375					380		

Glu Val Lys Val Cys Ala Gly Ala Ile Val Lys Pro Gly Val Val Leu  
 385 390 395 400  
 Ser Phe Lys Val Val Val Gly Arg Asp Phe Val Val Pro Ala Tyr Ser  
 405 410 415  
 Gln Val Ser Leu Leu Arg Gln Pro Met Glu Glu Asp Ser Asp Glu Glu  
 420 425 430  
 Asn Leu Leu Ser Gly Val Asp Leu Gln Met Glu Ser Lys Leu Gly Leu  
 435 440 445  
 Asp Gly Ala Gly Tyr Ile Trp Arg Gln Ala Cys Glu Asp Glu Trp Lys  
 450 455 460  
 His Ser Val Pro Pro Ile Pro Lys Asp Lys Leu Ala Glu Ile Ile Lys  
 465 470 475 480  
 Ala Ile Asp Asp Asp Asp Asp Thr Asp Asp Glu Ser Val Val Thr Thr Ser  
 485 490 495  
 Gly Asp Ala Asn Thr Ser Ile Asn Asn Asp Leu Phe Asp Phe Glu Arg  
 500 505 510  
 Glu Val Asp Gly Thr Phe Leu Arg Ala Val Glu Glu Asn Ile Val Ala  
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 Asp Leu Ala Val Leu Glu Ile Asn Ser Leu Arg Leu Ser Tyr Asn Met  
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 Glu Ser Ala His Cys Ala Gly Ala Ile Phe Tyr Ser Met Met Lys Leu  
 545 550 555 560  
 Ala Val Ser Thr Pro His Ser Ser Ile Asn Asp Leu Tyr Arg Asn Ala  
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 Ser Ser Ile Ile Thr Arg Trp Lys Gly Leu Leu Gly Phe Tyr Val Lys  
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 Lys Ser Asp Glu Gln Ile Glu Val Ile Ser Arg Leu Glu Glu Met Cys  
 595 600 605  
 Glu Glu Ser Ala His Glu Leu Gly Thr Leu Phe Ala His Ile Leu Arg  
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 Tyr Met Tyr Glu Glu Glu Asn Asp Leu Leu Gln Glu Val Ala Ile Leu  
 625 630 635 640  
 Arg Trp Ser Asp Glu Lys Ala Gly Ala Asp Glu Ser Asp Lys Val Tyr  
 645 650 655  
 Leu Lys Gln Cys Glu Pro Phe Ile Thr Trp Leu Lys Glu Thr Ser Asp  
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 Asp Glu Asp Gly  
 675

<210> 42  
<211> 2004  
<212> DNA  
<213> *Homo sapiens*

<400> 42  
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aaaaaaaaaaa aaaaaaaaaaaa aaaa 2004

<210> 43  
<211> 76  
<212> PRT  
<213> *Homo sapiens*

<400> 43  
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Gln Thr Leu Leu Gln Gln Met Gln Asp Lys Phe Gln Thr Met Ser Asp  
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Gln Ile Ile Gly Arg Ile Asp Asp Met Ser Ser Arg Ile Asp Asp Leu  
35 40 45

Glu Lys Asn Ile Ala Asp Leu Met Thr Gln Ala Gly Val Glu Glu Leu  
50 55 60

Glu Ser Glu Asn Lys Ile Pro Ala Thr Gln Lys Ser  
65 70 75

<210> 44  
<211> 2004  
<212> DNA  
<213> *Homo sapiens*

<400> 44  
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acgagactgg cagtcgcgg gaccgcgggg cattatgggta gtagtagttt ctcccgac 1980  
ggaaggcctc gaggccgcgc gccc 2004

<210> 45  
<211> 76  
<212> PRT  
<213> *Homo sapiens*

<400> 45  
Met Ala Glu Thr Asp Pro Lys Thr Val Gln Asp Leu Thr Ser Val Val

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Gln Ile Ile Gly Arg Ile Asp Asp Met Ser Ser Arg Ile Asp Asp Leu			
35	40	45	
Glu Lys Asn Ile Ala Asp Leu Met Thr Gln Ala Gly Val Glu Glu Leu			
50	55	60	
Glu Ser Glu Asn Lys Ile Pro Ala Thr Gln Lys Ser			
65	70	75	
<210> 46			
<211> 76			
<212> PRT			
<213> Mus musculus			
<400> 46			
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20	25	30	
Gln Ile Ile Gly Arg Ile Asp Asp Met Ser Ser Arg Ile Asp Asp Leu			
35	40	45	
Glu Lys Asn Ile Ala Asp Leu Met Thr Gln Ala Gly Val Glu Glu Leu			
50	55	60	
Asp Pro Glu Asn Lys Ile Pro Thr Ala Gln Lys Ser			
65	70	75	
<210> 47			
<211> 86			
<212> PRT			
<213> Drosophila melanogaster			
<400> 47			
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20	25	30	
Tyr Val Gln Asn Leu Leu Gln Asn Val Gln Asp Lys Phe Gln Thr Met			
35	40	45	
Ser Asp Gln Ile Ile Thr Arg Ile Asp Asp Met Gly Asn Arg Ile Asp			
50	55	60	
Asp Leu Glu Lys Ser Ile Ala Asp Leu Met Asn Gln Ala Gly Ile Glu			
65	70	75	80

Gly Gln Gly Pro Glu Lys  
85

<210> 48  
<211> 80  
<212> PRT  
<213> *Caenorhabditis elegans*

<400> 48  
Met Ser Asp Glu Lys Ser Thr Thr Pro Thr Ala Gln Leu Asp Ala Pro  
1 5 10 15

Ala Asp Gly Asn Met Asn Asp Leu Thr Ser Leu Ile Gln Gly Val Leu  
20 25 30

Gln Gln Thr Gln Asp Arg Phe Gln His Met Ser Asp Gln Ile Ile Arg  
35 40 45

Arg Ile Asp Asp Met Thr Thr Arg Ile Asp Asp Leu Glu Lys Asn Ile  
50 55 60

Asn Asp Leu Leu Gln Ser Asn Gln Val Glu His Pro Pro Ser Ala Gln  
65 70 75 80

<210> 49  
<211> 99  
<212> PRT  
<213> *Oryza sativa*

<400> 49  
Met Ala Ala Pro Gly Ser Gly Ser Gly Gly Ile Pro Ile Lys Ala Asp  
1 5 10 15

Gln Asp Ser Asp Gly Ser Ala Gln Ser Thr Ala Asp Met Thr Ala Phe  
20 25 30

Val Gln Asn Leu Leu Met Gln Met Gln Thr Arg Phe Gln Ser Met Ser  
35 40 45

Glu Asn Ile Ile Ser Lys Ile Asp Glu Met Gly Ala Arg Ile Asp Glu  
50 55 60

Leu Glu Gln Ser Ile Asn Asp Leu Lys Val Glu Met Gly Thr Glu Gly  
65 70 75 80

Ile Thr Pro Thr Lys Pro Lys Asp Glu Glu Ser Lys Pro Ala Gly Ser  
85 90 95

Ser Ala Glu

<210> 50  
<211> 4204  
<212> DNA  
<213> Homo sapiens

<400> 50  
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 <211> 90  
 <212> PRT  
 <213> Homo sapiens

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Met Lys Leu Ala Ile Asp Ile Asp Pro Val Ile Met Leu Leu Phe Phe  
 35 40 45

Leu Leu Leu Leu Ser Val Cys Ile Ser Ser Ser Leu Gly Trp Met Ser  
 50 55 60

Ile Gly Gln His Gly Lys Thr Met Phe Ile Asp Leu Gln Phe Leu Gly  
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Ala Leu Lys Lys Val Met His Arg Tyr Ile  
 85 90

<210> 52  
 <211> 3111  
 <212> DNA  
 <213> Homo sapiens

<400> 52  
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agtgtgattt ttagtaagcc attattctcc tattcaataa atatccaaa gagctaaaca 2220  
attccttaca ttaccaaga gggaaagctt tactgtgtt aagctaaaaa aataatggct 2280  
cttgacaaa acttggatg ttgatcgcgg tatgtcaaaa tttttacagg ttgctcattc 2340  
tgccagagca cacaatataa tttggatatt cttacacat tatctgtta gatttggatc 2400  
cagtaaaaata ttactgtat ttcatacatac cagtctatac aatgaaataa tgaatattt 2460  
tcataattgtat acaaactgtg acctcagtt cagagtgtca gggccact tttatagaat 2520  
gtaatgttct cctcaaacat ttatgttaac tctataaaaca aatatcgta agttaaaca 2580  
gttttcaaaa acaaaaacaat ttttaaagta cttaaaattt gaggatgtta ctcagtgta 2640  
acacatggga acaccaaaaat attcaataag cttggtcaat tctatagttt tttttttgt 2700  
accaacacat gctttctgt tactgttata ttatccagta gaaaatgtta ggatatgtgt 2760  
gctatataaa aaaaaaaaaa gacttggtaa gttttaaaat aacaaaatg gctagttgaa 2820  
tagtattttt tggatgtatc ttccatttt tctgtttaat tatacaacta agatgaaata 2880  
ttgaaaaacc ctttgtgaaa gtaactttc aagtaaaatgc acaactttag aatttctaca 2940  
aataagttct tttaaacagt ctttttattt tgattgtga aatcaaaatc tggagaaatg 3000  
cttataaaaat atactactag cttttaagtt ttaagaaaga agaacgtaag ttgtacaaag 3060  
atatttgcac tttgacaaac tgaattttaa taaactttat ttcctctcaa a 3111

<210> 53  
<211> 569  
<212> PRT  
<213> *Homo sapiens*

<400> 53

Met Asn Ala Thr Arg Ser Glu Glu Gln Phe His Val Ile Asn His Ala  
 1 5 10 15  
 Glu Gln Thr Leu Arg Lys Met Glu Asn Tyr Leu Lys Glu Lys Gln Leu  
 20 25 30  
 Cys Asp Val Leu Leu Ile Ala Gly His Leu Arg Ile Pro Ala His Arg  
 35 40 45  
 Leu Val Leu Ser Ala Val Ser Asp Tyr Phe Ala Ala Met Phe Thr Asn  
 50 55 60  
 Asp Val Leu Glu Ala Lys Gln Glu Glu Val Arg Met Glu Gly Val Asp  
 65 70 75 80  
 Pro Asn Ala Leu Asn Ser Leu Val Gln Tyr Ala Tyr Thr Gly Val Leu  
 85 90 95  
 Gln Leu Lys Glu Asp Thr Ile Glu Ser Leu Leu Ala Ala Ala Cys Leu  
 100 105 110  
 Leu Gln Leu Thr Gln Val Ile Asp Val Cys Ser Asn Phe Leu Ile Lys  
 115 120 125  
 Gln Leu His Pro Ser Asn Cys Leu Gly Ile Arg Ser Phe Gly Asp Ala  
 130 135 140  
 Gln Gly Cys Thr Glu Leu Leu Asn Val Ala His Lys Tyr Thr Met Glu  
 145 150 155 160  
 His Phe Ile Glu Val Ile Lys Asn Gln Glu Phe Leu Leu Pro Ala  
 165 170 175  
 Asn Glu Ile Ser Lys Leu Leu Cys Ser Asp Asp Ile Asn Val Pro Asp  
 180 185 190  
 Glu Glu Thr Ile Phe His Ala Leu Met Gln Trp Val Gly His Asp Val  
 195 200 205  
 Gln Asn Arg Gln Gly Glu Leu Gly Met Leu Leu Ser Tyr Ile Arg Leu  
 210 215 220  
 Pro Leu Leu Pro Pro Gln Leu Leu Ala Asp Leu Glu Thr Ser Ser Met  
 225 230 235 240  
 Phe Thr Gly Asp Leu Glu Cys Gln Lys Leu Leu Met Glu Ala Met Lys  
 245 250 255  
 Tyr His Leu Leu Pro Glu Arg Arg Ser Met Met Gln Ser Pro Arg Thr  
 260 265 270  
 Lys Pro Arg Lys Ser Thr Val Gly Ala Leu Tyr Ala Val Gly Gly Met  
 275 280 285  
 Asp Ala Met Lys Gly Thr Thr Ile Glu Lys Tyr Asp Leu Arg Thr  
 290 295 300

Asn Ser Trp Leu His Ile Gly Thr Met Asn Gly Arg Arg Leu Gln Phe  
 305 310 315 320  
 Gly Val Ala Val Ile Asp Asn Lys Leu Tyr Val Val Gly Gly Arg Asp  
 325 330 335  
 Gly Leu Lys Thr Leu Asn Thr Val Glu Cys Phe Asn Pro Val Gly Lys  
 340 345 350  
 Ile Trp Thr Val Met Pro Pro Met Ser Thr His Arg His Gly Leu Gly  
 355 360 365  
 Val Ala Thr Leu Glu Gly Pro Met Tyr Ala Val Gly Gly His Asp Gly  
 370 375 380  
 Trp Ser Tyr Leu Asn Thr Val Glu Arg Trp Asp Pro Glu Gly Arg Gln  
 385 390 395 400  
 Trp Asn Tyr Val Ala Ser Met Ser Thr Pro Arg Ser Thr Val Gly Val  
 405 410 415  
 Val Ala Leu Asn Asn Lys Leu Tyr Ala Ile Gly Gly Arg Asp Gly Ser  
 420 425 430  
 Ser Cys Leu Lys Ser Met Glu Tyr Phe Asp Pro His Thr Asn Lys Trp  
 435 440 445  
 Ser Leu Cys Ala Pro Met Ser Lys Arg Arg Gly Gly Val Gly Val Ala  
 450 455 460  
 Thr Tyr Asn Gly Phe Leu Tyr Val Val Gly Gly His Asp Ala Pro Ala  
 465 470 475 480  
 Ser Asn His Cys Ser Arg Leu Ser Asp Cys Val Glu Arg Tyr Asp Pro  
 485 490 495  
 Lys Gly Asp Ser Trp Ser Thr Val Ala Pro Leu Ser Val Pro Arg Asp  
 500 505 510  
 Ala Val Ala Val Cys Pro Leu Gly Asp Lys Leu Tyr Val Val Gly Gly  
 515 520 525  
 Tyr Asp Gly His Thr Tyr Leu Asn Thr Val Glu Ser Tyr Asp Ala Gln  
 530 535 540  
 Arg Asn Glu Trp Lys Glu Glu Val Pro Val Asn Ile Gly Arg Ala Gly  
 545 550 555 560  
 Ala Cys Val Val Val Val Lys Leu Pro  
 565

<210> 54  
 <211> 3111  
 <212> DNA  
 <213> Homo sapiens

<400> 54

<210> 55

<211> 728

<212> PRT

<213> Homo sapiens

<400> 55

Glu Lys Ala Phe Val Phe Pro Pro Ala Thr Met Ser Val Ser Gly Lys  
1 5 10 15

Lys Glu Phe Asp Val Lys Gln Ile Leu Arg Leu Arg Trp Arg Trp Phe  
20 25 30

Ser His Pro Phe Gln Gly Ser Thr Asn Thr Gly Ser Cys Leu Gln Gln  
35 40 45

Glu Gly Tyr Glu His Arg Gly Thr Pro Val Gln Gly Arg Leu Lys Ser  
50 55 60

His Ser Arg Asp Arg Asn Gly Leu Lys Lys Ser Asn Ser Pro Val His  
65 70 75 80

His Asn Ile Leu Ala Pro Val Pro Gly Pro Ala Pro Ala His Gln Arg  
85 90 95

Ala Val Gln Asn Leu Gln Gln His Asn Leu Ile Val His Phe Gln Ala  
100 105 110

Asn Glu Asp Thr Pro Lys Ser Val Pro Glu Lys Asn Leu Phe Lys Glu  
115 120 125

Ala Cys Glu Lys Arg Ala Gln Asp Leu Glu Met Met Ala Asp Asp Asn  
130 135 140

Ile Glu Asp Ser Thr Ala Arg Leu Asp Thr Gln His Ser Glu Asp Met  
145 150 155 160

Asn Ala Thr Arg Ser Glu Glu Gln Phe His Val Ile Asn His Ala Glu  
165 170 175

Gln Thr Leu Arg Lys Met Glu Asn Tyr Leu Lys Glu Lys Gln Leu Cys  
180 185 190

Asp Val Leu Leu Ile Ala Gly His Leu Arg Ile Pro Ala His Arg Leu  
195 200 205

Val Leu Ser Ala Val Ser Asp Tyr Phe Ala Ala Met Phe Thr Asn Asp  
210 215 220

Val Leu Glu Ala Lys Gln Glu Glu Val Arg Met Glu Gly Val Asp Pro  
225 230 235 240

Asn Ala Leu Asn Ser Leu Val Gln Tyr Ala Tyr Thr Gly Val Leu Gln  
245 250 255

Leu Lys Glu Asp Thr Ile Glu Ser Leu Leu Ala Ala Cys Leu Leu  
260 265 270

Gln Leu Thr Gln Val Ile Asp Val Cys Ser Asn Phe Leu Ile Lys Gln  
275 280 285

Leu His Pro Ser Asn Cys Leu Gly Ile Arg Ser Phe Gly Asp Ala Gln  
 290 295 300  
 Gly Cys Thr Glu Leu Leu Asn Val Ala His Lys Tyr Thr Met Glu His  
 305 310 315 320  
 Phe Ile Glu Val Ile Lys Asn Gln Glu Phe Leu Leu Leu Pro Ala Asn  
 325 330 335  
 Glu Ile Ser Lys Leu Leu Cys Ser Asp Asp Ile Asn Val Pro Asp Glu  
 340 345 350  
 Glu Thr Ile Phe His Ala Leu Met Gln Trp Val Gly His Asp Val Gln  
 355 360 365  
 Asn Arg Gln Gly Glu Leu Gly Met Leu Leu Ser Tyr Ile Arg Leu Pro  
 370 375 380  
 Leu Leu Pro Pro Gln Leu Leu Ala Asp Leu Glu Thr Ser Ser Met Phe  
 385 390 395 400  
 Thr Gly Asp Leu Glu Cys Gln Lys Leu Leu Met Glu Ala Met Lys Tyr  
 405 410 415  
 His Leu Leu Pro Glu Arg Arg Ser Met Met Gln Ser Pro Arg Thr Lys  
 420 425 430  
 Pro Arg Lys Ser Thr Val Gly Ala Leu Tyr Ala Val Gly Gly Met Asp  
 435 440 445  
 Ala Met Lys Gly Thr Thr Ile Glu Lys Tyr Asp Leu Arg Thr Asn  
 450 455 460  
 Ser Trp Leu His Ile Gly Thr Met Asn Gly Arg Arg Leu Gln Phe Gly  
 465 470 475 480  
 Val Ala Val Ile Asp Asn Lys Leu Tyr Val Val Gly Gly Arg Asp Gly  
 485 490 495  
 Leu Lys Thr Leu Asn Thr Val Glu Cys Phe Asn Pro Val Gly Lys Ile  
 500 505 510  
 Trp Thr Val Met Pro Pro Met Ser Thr His Arg His Gly Leu Gly Val  
 515 520 525  
 Ala Thr Leu Glu Gly Pro Met Tyr Ala Val Gly Gly His Asp Gly Trp  
 530 535 540  
 Ser Tyr Leu Asn Thr Val Glu Arg Trp Asp Pro Glu Gly Arg Gln Trp  
 545 550 555 560  
 Asn Tyr Val Ala Ser Met Ser Thr Pro Arg Ser Thr Val Gly Val Val  
 565 570 575  
 Ala Leu Asn Asn Lys Leu Tyr Ala Ile Gly Gly Arg Asp Gly Ser Ser  
 580 585 590

Cys	Leu	Lys	Ser	Met	Glu	Tyr	Phe	Asp	Pro	His	Thr	Asn	Lys	Trp	Ser
595					600							605			
Leu	Cys	Ala	Pro	Met	Ser	Lys	Arg	Arg	Gly	Gly	Val	Gly	Val	Ala	Thr
610					615						620				
Tyr	Asn	Gly	Phe	Leu	Tyr	Val	Val	Gly	Gly	His	Asp	Ala	Pro	Ala	Ser
625					630					635			640		
Asn	His	Cys	Ser	Arg	Leu	Ser	Asp	Cys	Val	Glu	Arg	Tyr	Asp	Pro	Lys
					645				650			655			
Gly	Asp	Ser	Trp	Ser	Thr	Val	Ala	Pro	Leu	Ser	Val	Pro	Arg	Asp	Ala
					660				665			670			
Val	Ala	Val	Cys	Pro	Leu	Gly	Asp	Lys	Leu	Tyr	Val	Val	Gly	Gly	Tyr
					675				680			685			
Asp	Gly	His	Thr	Tyr	Leu	Asn	Thr	Val	Glu	Ser	Tyr	Asp	Ala	Gln	Arg
					690				695			700			
Asn	Glu	Trp	Lys	Glu	Glu	Val	Pro	Val	Asn	Ile	Gly	Arg	Ala	Gly	Ala
					705				710			715			720
Cys	Val	Val	Val	Val	Lys	Leu	Pro								
					725										

<210> 56  
 <211> 569  
 <212> PRT  
 <213> Homo sapiens

<400> 56															
Met	Asn	Ala	Thr	Arg	Ser	Glu	Glu	Gln	Phe	His	Val	Ile	Asn	His	Ala
1					5				10				15		
Glu	Gln	Thr	Leu	Arg	Lys	Met	Glu	Asn	Tyr	Leu	Lys	Glu	Lys	Gln	Leu
					20				25			30			
Cys	Asp	Val	Leu	Leu	Ile	Ala	Gly	His	Leu	Arg	Ile	Pro	Ala	His	Arg
					35				40			45			
Leu	Val	Leu	Ser	Ala	Val	Ser	Asp	Tyr	Phe	Ala	Ala	Met	Phe	Thr	Asn
					50				55			60			
Asp	Val	Leu	Glu	Ala	Lys	Gln	Glu	Glu	Val	Arg	Met	Glu	Gly	Val	Asp
					65				70			75			80
Pro	Asn	Ala	Leu	Asn	Ser	Leu	Val	Gln	Tyr	Ala	Tyr	Thr	Gly	Val	Leu
					85				90			95			
Gln	Leu	Lys	Glu	Asp	Thr	Ile	Glu	Ser	Leu	Leu	Ala	Ala	Cys	Leu	
					100				105			110			
Leu	Gln	Leu	Thr	Gln	Val	Ile	Asp	Val	Cys	Ser	Asn	Phe	Leu	Ile	Lys

115	120	125
Gln Leu His Pro Ser Asn Cys Leu Gly Ile Arg Ser Phe Gly Asp Ala		
130	135	140
Gln Gly Cys Thr Glu Leu Leu Asn Val Ala His Lys Tyr Thr Met Glu		
145	150	155
His Phe Ile Glu Val Ile Lys Asn Gln Glu Phe Leu Leu Leu Pro Ala		
165	170	175
Asn Glu Ile Ser Lys Leu Leu Cys Ser Asp Asp Ile Asn Val Pro Asp		
180	185	190
Glu Glu Thr Ile Phe His Ala Leu Met Gln Trp Val Gly His Asp Val		
195	200	205
Gln Asn Arg Gln Gly Glu Leu Gly Met Leu Leu Ser Tyr Ile Arg Leu		
210	215	220
Pro Leu Leu Pro Pro Gln Leu Leu Ala Asp Leu Glu Thr Ser Ser Met		
225	230	235
Phe Thr Gly Asp Leu Glu Cys Gln Lys Leu Leu Met Glu Ala Met Lys		
245	250	255
Tyr His Leu Leu Pro Glu Arg Arg Ser Met Met Gln Ser Pro Arg Thr		
260	265	270
Lys Pro Arg Lys Ser Thr Val Gly Ala Leu Tyr Ala Val Gly Gly Met		
275	280	285
Asp Ala Met Lys Gly Thr Thr Ile Glu Lys Tyr Asp Leu Arg Thr		
290	295	300
Asn Ser Trp Leu His Ile Gly Thr Met Asn Gly Arg Arg Leu Gln Phe		
305	310	315
Gly Val Ala Val Ile Asp Asn Lys Leu Tyr Val Val Gly Gly Arg Asp		
325	330	335
Gly Leu Lys Thr Leu Asn Thr Val Glu Cys Phe Asn Pro Val Gly Lys		
340	345	350
Ile Trp Thr Val Met Pro Pro Met Ser Thr His Arg His Gly Leu Gly		
355	360	365
Val Ala Thr Leu Glu Gly Pro Met Tyr Ala Val Gly Gly His Asp Gly		
370	375	380
Trp Ser Tyr Leu Asn Thr Val Glu Arg Trp Asp Pro Glu Gly Arg Gln		
385	390	395
Trp Asn Tyr Val Ala Ser Met Ser Thr Pro Arg Ser Thr Val Gly Val		
405	410	415
Val Ala Leu Asn Asn Lys Leu Tyr Ala Ile Gly Gly Arg Asp Gly Ser		

420	425	430
Ser Cys Leu Lys Ser Met Glu Tyr Phe Asp Pro His Thr Asn Lys Trp		
435	440	445
Ser Leu Cys Ala Pro Met Ser Lys Arg Arg Gly Gly Val Gly Val Ala		
450	455	460
Thr Tyr Asn Gly Phe Leu Tyr Val Val Gly Gly His Asp Ala Pro Ala		
465	470	475
Ser Asn His Cys Ser Arg Leu Ser Asp Cys Val Glu Arg Tyr Asp Pro		
485	490	495
Lys Gly Asp Ser Trp Ser Thr Val Ala Pro Leu Ser Val Pro Arg Asp		
500	505	510
Ala Val Ala Val Cys Pro Leu Gly Asp Lys Leu Tyr Val Val Gly Gly		
515	520	525
Tyr Asp Gly His Thr Tyr Leu Asn Thr Val Glu Ser Tyr Asp Ala Gln		
530	535	540
Arg Asn Glu Trp Lys Glu Glu Val Pro Val Asn Ile Gly Arg Ala Gly		
545	550	555
Ala Cys Val Val Val Lys Leu Pro		
565		
<210> 57		
<211> 748		
<212> PRT		
<213> Homo sapiens		
<400> 57		
Met Ser Gly Ser Gly Arg Lys Asp Phe Asp Val Lys His Ile Leu Arg		
1	5	10
		15
Leu Arg Trp Lys Leu Phe Ser His Pro Ser Pro Ser Thr Gly Gly Pro		
20	25	30
Ala Gly Gly Cys Leu Gln Gln Asp Gly Ser Gly Ser Phe Glu His		
35	40	45
Trp Gly Pro Ser Gln Ser Arg Leu Leu Lys Ser Gln Glu Arg Ser Gly		
50	55	60
Val Ser Thr Phe Trp Lys Lys Pro Ser Ser Ser Ser Ser Ser Ser Ser		
65	70	75
		80
Ser Pro Ser Ser Ser Ser Ser Phe Asn Pro Leu Asn Gly Thr Leu		
85	90	95
Leu Pro Val Ala Thr Arg Leu Gln Gln Gly Ala Pro Gly Gln Gly Thr		
100	105	110

Gln Gln Pro Ala Arg Thr Leu Phe Tyr Val Glu Ser Leu Glu Glu  
 115 120 125  
 Val Val Pro Gly Met Asp Phe Pro Gly Pro His Glu Lys Gly Leu Val  
 130 135 140  
 Leu Gln Glu Leu Lys Val Glu Pro Asp Asn Ser Ser Gln Ala Thr Gly  
 145 150 155 160  
 Glu Gly Cys Gly His Arg Leu Ser Ser Thr Gly His Ser Met Thr Pro  
 165 170 175  
 Gln Ser Asp Leu Asp Ser Ser Ser Glu Glu Phe Tyr Gln Ala Val  
 180 185 190  
 His His Ala Glu Gln Thr Phe Arg Lys Met Glu Ser Tyr Leu Lys Gln  
 195 200 205  
 Gln Gln Leu Cys Asp Val Ile Leu Ile Val Gly Asn Arg Lys Ile Pro  
 210 215 220  
 Ala His Arg Leu Val Leu Ser Ser Val Ser Asp Tyr Phe Ala Ala Met  
 225 230 235 240  
 Phe Thr Ser Asp Val Cys Glu Ala Lys Gln Glu Glu Ile Lys Met Glu  
 245 250 255  
 Gly Ile Asp Pro Asn Ala Leu Trp Asp Leu Val Gln Phe Ala Tyr Thr  
 260 265 270  
 Gly Cys Leu Glu Leu Lys Glu Asp Thr Ile Glu Asn Leu Leu Ala Ala  
 275 280 285  
 Ala Cys Leu Leu Gln Leu Pro Gln Val Val Glu Val Cys Cys His Phe  
 290 295 300  
 Leu Met Lys Leu Leu His Pro Ser Asn Cys Leu Gly Ile Arg Ala Phe  
 305 310 315 320  
 Ala Asp Ala Gln Gly Cys Ile Glu Leu Met Lys Val Ala His Ser Tyr  
 325 330 335  
 Thr Met Glu Asn Ile Met Glu Val Ile Arg Asn Gln Glu Phe Leu Leu  
 340 345 350  
 Leu Pro Ala Glu Glu Leu His Lys Leu Leu Ala Ser Asp Asp Val Asn  
 355 360 365  
 Val Pro Asp Glu Glu Thr Ile Phe His Ala Leu Met Met Trp Val Lys  
 370 375 380  
 Tyr Asp Met Gln Ser Arg Cys Asn Asp Leu Ser Met Leu Leu Ala Phe  
 385 390 395 400  
 Ile Arg Leu Pro Leu Leu Pro Pro Gln Ile Leu Ala Asp Leu Glu Asn  
 405 410 415

His Ala Leu Phe Lys Asn Asp Leu Glu Cys Gln Lys Leu Ile Leu Glu  
 420 425 430  
 Ala Met Lys Tyr His Leu Leu Pro Glu Arg Arg Thr Leu Met Gln Ser  
 435 440 445  
 Pro Arg Thr Lys Pro Arg Lys Ser Thr Val Gly Thr Leu Tyr Ala Val  
 450 455 460  
 Gly Gly Met Asp Asn Asn Lys Gly Ala Thr Thr Ile Glu Lys Tyr Asp  
 465 470 475 480  
 Leu Arg Thr Asn Leu Trp Ile Gln Ala Gly Met Met Asn Gly Arg Arg  
 485 490 495  
 Leu Gln Phe Gly Val Ala Val Ile Asp Asp Lys Leu Phe Val Ile Gly  
 500 505 510  
 Gly Arg Asp Gly Leu Lys Thr Leu Asn Thr Val Glu Cys Tyr Asn Pro  
 515 520 525  
 Lys Thr Lys Thr Trp Thr Val Leu Pro Pro Met Ser Thr His Arg His  
 530 535 540  
 Gly Leu Gly Val Thr Val Leu Glu Gly Pro Ile Tyr Ala Val Gly Gly  
 545 550 555 560  
 His Asp Gly Trp Ser Tyr Leu Asn Thr Val Glu Arg Trp Asp Pro Gln  
 565 570 575  
 Ser Gln Gln Trp Thr Phe Val Ala Ser Met Ser Ile Ala Arg Ser Thr  
 580 585 590  
 Val Gly Val Ala Ala Leu Asn Gly Lys Leu Tyr Ser Val Gly Gly Arg  
 595 600 605  
 Asp Gly Ser Ser Cys Leu Ser Ser Met Glu Tyr Tyr Asp Pro His Thr  
 610 615 620  
 Asn Lys Trp Asn Met Cys Ala Pro Met Cys Lys Arg Arg Gly Gly Val  
 625 630 635 640  
 Gly Val Ala Thr Cys Asp Gly Phe Leu Tyr Ala Val Gly Gly His Asp  
 645 650 655  
 Ala Pro Ala Ser Asn His Cys Ser Arg Leu Leu Asp Tyr Val Glu Arg  
 660 665 670  
 Tyr Asp Pro Lys Thr Asp Thr Trp Thr Met Val Ala Pro Leu Ser Met  
 675 680 685  
 Pro Arg Asp Ala Val Gly Val Cys Leu Leu Gly Asp Arg Leu Tyr Ala  
 690 695 700  
 Val Gly Gly Tyr Asp Gly Gln Thr Tyr Leu Asn Thr Met Glu Ser Tyr  
 705 710 715 720

Asp Pro Gln Thr Asn Glu Trp Thr Gln Met Ala Ser Leu Asn Ile Gly  
 725 730 735  
 Arg Ala Gly Ala Cys Val Val Val Ile Lys Gln Pro  
 740 745

<210> 58  
 <211> 751  
 <212> PRT  
 <213> Mus musculus

<400> 58  
 Met Ser Gly Ser Gly Arg Lys Asp Phe Asp Val Lys His Ile Leu Arg  
 1 5 10 15

Leu Arg Trp Lys Leu Phe Ser His Pro Ser Pro Ala Ser Ser Ser Pro  
 20 25 30

Ala Gly Gly Ser Cys Leu Gln Gln Asp Ser Gly Gly Ser Phe Glu  
 35 40 45

His Trp Gly Pro Ser Gln Ser Arg Leu Leu Lys Asn Gln Glu Lys Gly  
 50 55 60

Ser Val Ser Ala Phe Trp Lys Lys Pro Ser Ser Ser Ser Ser Ser  
 65 70 75 80

Ser Ser Ser Ser Ala Ser Ser Ser Pro Phe Asn Pro Leu Asn  
 85 90 95

Gly Thr Leu Leu Pro Val Ala Thr Arg Leu Gln Gln Gly Ala Pro Gly  
 100 105 110

Gln Gly Thr Gln Gln Pro Ala Arg Thr Leu Phe Tyr Val Glu Ser Leu  
 115 . 120 125

Glu Glu Glu Val Val Thr Gly Met Asp Phe Pro Gly Pro Gln Asp Lys  
 130 135 140

Gly Leu Ala Leu Lys Glu Leu Gln Ala Glu Pro Ala Ser Ser Ile Gln  
 145 150 155 160

Ala Thr Gly Glu Gly Cys Gly His Arg Leu Thr Ser Thr Asn His Ser  
 165 170 175

Leu Thr Pro Gln Ser Asp Leu Asp Ser Ser Ser Ser Glu Glu Phe Tyr  
 180 185 190

Gln Ala Val Arg His Ala Glu Gln Ser Phe Arg Lys Met Glu Asn Tyr  
 195 200 205

Leu Lys Gln Gln Gln Leu Cys Asp Val Ile Leu Ile Val Gly Asn Arg  
 210 215 220

Lys Ile Pro Ala His Arg Leu Val Leu Ser Ser Val Ser Asp Tyr Phe  
 225 230 235 240

Ala Ala Met Phe Thr Ser Asp Val Cys Glu Ala Lys Gln Glu Glu Ile  
 245 250 255  
 Lys Met Glu Gly Ile Asp Pro Asn Ala Leu Trp Asp Leu Val Gln Phe  
 260 265 270  
 Ala Tyr Thr Gly Cys Leu Glu Leu Lys Glu Asp Thr Ile Glu Asn Leu  
 275 280 285  
 Leu Ala Ala Ala Cys Leu Leu Gln Leu Pro Gln Val Val Glu Val Cys  
 290 295 300  
 Cys His Phe Leu Met Lys Leu Leu His Pro Ser Asn Cys Leu Gly Ile  
 305 310 315 320  
 Arg Ala Phe Ala Asp Ala Gln Gly Cys Ile Glu Leu Met Lys Val Ala  
 325 330 335  
 His Ser Tyr Thr Met Glu Asn Ile Met Glu Val Ile Arg Asn Gln Glu  
 340 345 350  
 Phe Leu Leu Leu Pro Ala Glu Glu Leu His Lys Leu Leu Ala Ser Asp  
 355 360 365  
 Asp Val Asn Val Pro Asp Glu Glu Thr Ile Phe His Ala Leu Met Met  
 370 375 380  
 Trp Val Lys Tyr Asp Met Gln Arg Arg Cys Ser Asp Leu Ser Met Leu  
 385 390 395 400  
 Leu Ala Phe Ile Arg Leu Pro Leu Leu Pro Pro Gln Ile Leu Ala Asp  
 405 410 415  
 Leu Glu Asn His Ala Leu Phe Lys Asn Asp Leu Glu Cys Gln Lys Leu  
 420 425 430  
 Ile Leu Glu Ala Met Lys Tyr His Leu Leu Pro Glu Arg Arg Thr Leu  
 435 440 445  
 Met Gln Ser Pro Arg Thr Lys Pro Arg Lys Ser Thr Val Gly Thr Leu  
 450 455 460  
 Tyr Ala Val Gly Gly Met Asp Asn Asn Lys Gly Ala Thr Thr Ile Glu  
 465 470 475 480  
 Lys Tyr Asp Leu Arg Thr Asn Leu Trp Ile Gln Ala Gly Met Met Asn  
 485 490 495  
 Gly Arg Arg Leu Gln Phe Gly Val Ala Val Ile Asp Asp Lys Leu Phe  
 500 505 510  
 Val Ile Gly Gly Arg Asp Gly Leu Lys Thr Leu Asn Thr Val Glu Cys  
 515 520 525  
 Tyr Asn Pro Lys Thr Lys Thr Trp Thr Val Leu Pro Pro Met Ser Thr  
 530 535 540

His Arg His Gly Leu Gly Val Thr Val Leu Glu Gly Pro Ile Tyr Ala  
 545 550 555 560  
 Val Gly Gly His Asp Gly Trp Ser Tyr Leu Asn Thr Val Glu Arg Trp  
 565 570 575  
 Asp Pro Gln Ser Gln Gln Trp Thr Tyr Val Ala Ser Met Ser Ile Ala  
 580 585 590  
 Arg Ser Thr Val Gly Val Ala Ala Leu Asn Gly Lys Leu Tyr Ser Val  
 595 600 605  
 Gly Gly Arg Asp Gly Ser Ser Cys Leu Ser Ser Met Glu Tyr Tyr Asp  
 610 615 620  
 Pro His Thr Asn Lys Trp Ser Met Cys Pro Pro Met Cys Lys Lys Arg  
 625 630 635 640  
 Gly Gly Val Gly Val Ala Thr Cys Asp Gly Phe Leu Tyr Ala Val Gly  
 645 650 655  
 Gly His Asp Ala Pro Ala Ser Asn His Cys Ser Arg Leu Leu Asp Tyr  
 660 665 670  
 Val Glu Arg Tyr Glu Pro Lys Thr Asp Thr Trp Thr Met Val Ala Pro  
 675 680 685  
 Leu Ser Met Pro Arg Asp Ala Val Gly Val Cys Leu Leu Gly Asp Arg  
 690 695 700  
 Leu Tyr Ala Val Gly Gly Tyr Asp Gly Gln Thr Tyr Leu Asn Thr Met  
 705 710 715 720  
 Glu Ser Tyr Asp Pro Gln Thr Asn Glu Trp Thr Gln Met Ala Ser Leu  
 725 730 735  
 Asn Ile Gly Arg Ala Gly Ala Cys Val Val Val Ile Lys Gln Pro  
 740 745 750

<210> 59  
 <211> 411  
 <212> PRT  
 <213> Homo sapiens

<400> 59  
 Met Glu His Phe Ile Glu Val Ile Lys Asn Gln Glu Phe Leu Leu Leu  
 1 5 10 15  
 Pro Ala Asn Glu Ile Ser Lys Leu Leu Cys Ser Asp Asp Ile Asn Val  
 20 25 30  
 Pro Asp Glu Glu Thr Ile Phe His Ala Leu Met Gln Trp Val Gly His  
 35 40 45  
 Asp Val Gln Asn Arg Gln Gly Glu Leu Gly Met Leu Leu Ser Tyr Ile

50	55	60
Arg Leu Pro Leu Leu Pro Pro Gln Leu Leu Ala Asp Leu Glu Thr Ser		
65	70	75
75 80		
Ser Met Phe Thr Gly Asp Leu Glu Cys Gln Lys Leu Leu Met Glu Ala		
85	90	95
Met Lys Tyr His Leu Leu Pro Glu Arg Arg Ser Met Met Gln Ser Pro		
100	105	110
Arg Thr Lys Pro Arg Lys Ser Thr Val Gly Ala Leu Tyr Ala Val Gly		
115	120	125
Gly Met Asp Ala Met Lys Gly Thr Thr Ile Glu Lys Tyr Asp Leu		
130	135	140
Arg Thr Asn Ser Trp Leu His Ile Gly Thr Met Asn Gly Arg Arg Leu		
145	150	155
155 160		
Gln Phe Gly Val Ala Val Ile Asp Asn Lys Leu Tyr Val Val Gly Gly		
165	170	175
Arg Asp Gly Leu Lys Thr Leu Asn Thr Val Glu Cys Phe Asn Pro Val		
180	185	190
Gly Lys Ile Trp Thr Val Met Pro Pro Met Ser Thr His Arg His Gly		
195	200	205
Leu Gly Val Ala Thr Leu Glu Gly Pro Met Tyr Ala Val Gly Gly His		
210	215	220
Asp Gly Trp Ser Tyr Leu Asn Thr Val Glu Arg Trp Asp Pro Glu Gly		
225	230	235
235 240		
Arg Gln Trp Asn Tyr Val Ala Ser Met Ser Thr Pro Arg Ser Thr Val		
245	250	255
Gly Val Val Ala Leu Asn Asn Lys Leu Tyr Ala Ile Gly Gly Arg Asp		
260	265	270
Gly Ser Ser Cys Leu Lys Ser Met Glu Tyr Phe Asp Pro His Thr Asn		
275	280	285
Lys Trp Ser Leu Cys Ala Pro Met Ser Lys Arg Arg Gly Gly Val Gly		
290	295	300
300 305		
Val Ala Thr Tyr Asn Gly Phe Leu Tyr Val Val Gly Gly His Asp Ala		
310	315	320
Pro Ala Ser Asn His Cys Ser Arg Leu Ser Asp Cys Val Glu Arg Tyr		
325	330	335
Asp Pro Lys Gly Asp Ser Trp Ser Thr Val Ala Pro Leu Ser Val Pro		
340	345	350
Arg Asp Ala Val Ala Val Cys Pro Leu Gly Asp Lys Leu Tyr Val Val		

355	360	365													
Gly	Gly	Tyr	Asp	Gly	His	Thr	Tyr	Leu	Asn	Thr	Val	Glu	Ser	Tyr	Asp
370							375							380	
Ala	Gln	Arg	Asn	Glu	Trp	Lys	Glu	Glu	Val	Pro	Val	Asn	Ile	Gly	Arg
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Ala	Gly	Ala	Cys	Val	Val	Val	Lys	Leu	Pro						
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<211> 1339  
<212> DNA  
<213> *Homo sapiens*

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ctgcctcgga gcacaccttgg gtcgggagc ctcgtgtcg tctgcgtgtt ggccgcctg 180  
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<210> 61
<211> 186
<212> PRT
<213> Homo sapiens
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Val Val Cys Lys Arg Leu Leu Thr Ala Trp Val Ala Ala Arg Ile Gln  
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Ser Glu Lys Leu Ser Ala Val Ile Arg Val Val Glu Gly Gly Ser  
      35                 40                 45

Gly Leu Lys Val Val Ala Leu Ala Arg Leu Thr Pro Ile Pro Phe Gly  
 50 55 60

Leu Gln Asn Ala Val Phe Ser Ile Thr Asp Leu Ser Leu Pro Asn Tyr  
 65 70 75 80

Leu Met Ala Ser Ser Val Gly Leu Leu Pro Thr Gln Leu Leu Asn Ser  
 85 90 95

Tyr Leu Gly Thr Thr Leu Arg Thr Met Glu Asp Val Ile Ala Glu Gln  
 100 105 110

Ser Val Ser Gly Tyr Phe Val Phe Cys Leu Gln Ile Ile Ile Ser Ile  
 115 120 125

Gly Leu Met Phe Tyr Val Val His Arg Ala Gln Val Glu Leu Asn Ala  
 130 135 140

Ala Ile Val Ala Cys Glu Met Glu Leu Lys Ser Ser Leu Val Lys Gly  
 145 150 155 160

Asn Gln Pro Asn Thr Ser Gly Ser Ser Phe Tyr Asn Lys Arg Thr Leu  
 165 170 175

Thr Phe Ser Gly Gly Gly Ile Asn Val Val  
 180 185

<210> 62  
 <211> 512  
 <212> DNA  
 <213> Homo sapiens

<400> 62  
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<210> 63  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
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Val Val Cys Lys Arg Leu Leu Thr Ala Trp Val Ala Ala Arg Ile Gln  
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Ser Ser Glu Lys Leu Ser Ala Val Ile Arg Val Val Glu Gly Gly Ser  
35 40 45

Gly Leu Lys Val Val Ala Leu Ala Arg Leu Thr Pro Ile Pro Phe Gly  
50 55 60

Leu Gln Asn Ala Val Phe Ser Ile Ile Ile Ser Ile Gly Leu Met Phe  
65 70 75 80

Tyr Val Val His Arg Ala Gln Val Glu Leu Asn Ala Ala Ile Val Ala  
85 90 95

Cys Glu Met Glu Leu Lys Ser Ser Leu Val Lys Gly Asn Gln Pro Asn  
100 105 110

Thr Ser Gly Ser Ser Phe Tyr Asn Lys Arg Thr Leu Thr Phe Ser Gly  
115 120 125

Gly Gly Ile Asn Val Val  
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<210> 64

<211> 690

<212> DNA

<213> Homo sapiens

<400> 64

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gaacagatgt ttagtgata ttttggat ttttgcgtt ttttgcgtt ttttgcgtt 480  
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tacaacaaga ggacccttaac atttctggaa ggtggaaatca atgttgatgcgtt 660  
gatacgtgat ttttgcgtt gttaaaggc ctgtgtgt 690

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<211> 216

<212> PRT

<213> Homo sapiens

<400> 65

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Leu Asn Val Ala Ala Gly Tyr Leu Tyr Gly Phe Val Leu Gly Met Gly  
20 25 30

Leu Met Met Val Gly Val Leu Ile Gly Thr Phe Ile Ala His Val Val  
35 40 45

Cys Lys Arg Leu Leu Thr Ala Trp Val Ala Ala Arg Ile Gln Ser Ser  
 50 55 60

Glu Lys Leu Ser Ala Val Ile Arg Val Val Glu Gly Gly Ser Gly Leu  
 65 70 75 80

Lys Val Val Ala Leu Ala Arg Leu Thr Pro Ile Pro Phe Gly Leu Gln  
 85 90 95

Asn Ala Val Phe Ser Ile Thr Asp Leu Ser Leu Pro Asn Tyr Leu Met  
 100 105 110

Ala Ser Ser Val Gly Leu Leu Pro Thr Gln Leu Leu Asn Ser Tyr Leu  
 115 120 125

Gly Thr Thr Leu Arg Thr Met Glu Asp Val Ile Ala Glu Gln Ser Val  
 130 135 140

Ser Gly Tyr Phe Val Phe Cys Leu Gln Ile Ile Ile Ser Ile Gly Leu  
 145 150 155 160

Met Phe Tyr Val Val His Arg Ala Gln Val Glu Leu Asn Ala Ala Ile  
 165 170 175

Val Ala Cys Glu Met Glu Leu Lys Ser Ser Leu Val Lys Gly Asn Gln  
 180 185 190

Pro Asn Thr Ser Gly Ser Ser Phe Tyr Asn Lys Arg Thr Leu Thr Phe  
 195 200 205

Ser Gly Gly Gly Ile Asn Val Val  
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<210> 66  
 <211> 209  
 <212> PRT  
 <213> Synechococcus sp.

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Val Phe Leu Pro Gly Ser Ile Leu Thr Leu Gly Ala Gly Val Val Phe  
 35 40 45

Gly Val Ile Leu Gly Ser Ile Tyr Val Phe Ile Gly Ala Thr Leu Gly  
 50 55 60

Ala Thr Ala Ala Phe Leu Val Gly Arg Tyr Leu Ala Arg Gly Trp Val  
 65 70 75 80

Ala Lys Lys Ile Ala Gly Asn Gln Lys Phe Lys Ala Ile Asp Glu Ala

85	90	95
Val Gly Lys Glu Gly Leu Lys Ile Val Ile Leu Thr Arg Leu Ser Pro		
100	105	110
Val Phe Pro Phe Asn Leu Leu Asn Tyr Ala Tyr Gly Ile Thr Asn Val		
115	120	125
Ser Leu Lys Asp Tyr Val Ile Gly Ser Leu Gly Met Ile Pro Gly Thr		
130	135	140
Ile Met Tyr Val Tyr Ile Gly Ser Leu Ala Gly Ser Leu Ala Thr Leu		
145	150	155
Gly Thr Ala Thr Asn Gln Ala Asn Pro Thr Leu Gln Trp Thr Ile Arg		
165	170	175
Ile Val Gly Phe Ile Ala Thr Val Ala Val Thr Ile Tyr Val Thr Lys		
180	185	190
Ile Ala Arg Lys Ala Leu Asn Glu Ala Ile Leu Thr Ser Glu Val Asp		
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Glu		

<210> 67		
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<212> PRT		
<213> Drosophila melanogaster		
<400> 67		
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Thr Arg Asn Trp Tyr Leu Gly Cys Leu Val Pro Ala Thr Ile Leu Gly		
20	25	30
Ala Leu Val Phe Ile Gly Trp Ala Thr Arg Asp Tyr Ala Arg Gln Leu		
35	40	45
Leu Phe Trp Ile Glu Met Gln Asn Ala Trp Ile Thr Phe Ala Val Tyr		
50	55	60
Met Gly Leu Phe Ala Leu Val Ser Phe Pro Val Val Gly Tyr Phe		
65	70	75
		80
Val Leu Leu Ile Thr Ala Gly Tyr Leu Phe Gly Cys Leu Arg Gly Trp		
85	90	95
Val Thr Val Ile Leu Gly Ala Asn Ile Gly Ile Ala Val Ala His Ala		
100	105	110
Thr Ile Arg Ser Cys Arg His Arg Ile Pro Val Gln Ser Pro Tyr Ile		
115	120	125

Thr His Cys Ser Val Cys Phe Leu Tyr Ser Pro Met Leu Arg Phe Leu  
 130 135 140

Arg Asn Phe Lys Tyr Tyr Ala Trp Gln Glu Val Arg Arg Gly Cys Ser  
 145 150 155 160

Val Val Ala Pro Pro Asp Arg Ser Asp Val Leu Leu Val Leu Pro Thr  
 165 170 175

Val Trp Pro Ser Glu Leu Thr Lys Arg Ile Arg Pro Leu Ser Val Pro  
 180 185 190

Asp Leu Ile Glu Lys Phe Ser Cys Asp Ala Pro Gly Gly Gln Phe Ala  
 195 200 205

Thr Met Ser Glu Tyr Leu Arg Ser Asp Pro Arg Pro Asp Gly Val Leu  
 210 215 220

Leu Pro Asp Glu Ile Asp Leu His Arg Lys Met Ser Leu Asp Asp Leu  
 225 230 235 240

Asn Ser Tyr Met His Ala Lys Asp Ala Phe Lys Glu Pro His Arg Lys  
 245 250 255

Asn Arg Ile Phe Ser His Val Leu Val Val Ala Gly Ala Asp Ser Ala  
 260 265 270

Arg Ser Tyr Pro Phe Arg Gln Arg Pro Asp Phe Leu Tyr Leu Cys Asp  
 275 280 285

Cys Leu Arg Pro Gly Ala Ala Leu Val Leu Thr Arg Ser Arg Lys Arg  
 290 295 300

Asn Thr Gly Ala Leu Leu Phe Leu Ser Gln Asp Val Asp Ser Gln Leu  
 305 310 315 320

Ser Thr Ile Phe Ser His Met His Tyr Val Asp Asp Val Leu Pro Leu  
 325 330 335

Ala Met Leu Lys Lys Ser Leu Leu Trp Leu Leu Arg Asp His Ser Pro  
 340 345 350

Glu Leu Trp His Phe Tyr Asp Pro Ser Ser Pro Val Ser Cys Ile Val  
 355 360 365

Gln Glu Val Ala Asn Glu Ala Lys Ile Pro Met Gly Asn Pro Arg Tyr  
 370 375 380

Ile Leu Gln Tyr Thr Arg Thr Val Lys Thr Ser Arg Glu Leu Arg Ala  
 385 390 395 400

Leu Arg Arg Ala Asn Ala Thr Ala Ala Asp Ser Met Ala Glu Val Ile  
 405 410 415

Ala Gln His His Gln Ile Pro Gln Glu Leu Ala Ala Ser Phe Asp Tyr  
 420 425 430

Lys Cys Arg Leu Arg His Ala Arg Pro Asp Val Thr  
435 440

<210> 68  
<211> 269  
<212> PRT  
<213> Arabidopsis thaliana

<400> 68  
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Leu Val Ala Ile Val Ser Ala Val Ile Phe Leu Pro Lys Leu Lys Asp  
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Phe Leu Leu Trp Ile Lys Glu Asp Leu Gly Pro Phe Gly Pro Leu Ala  
35 40 45

Leu Ala Leu Ala Tyr Ile Pro Leu Thr Ile Val Ala Val Pro Ala Ser  
50 55 60

Val Leu Thr Leu Gly Gly Tyr Leu Phe Gly Leu Pro Val Gly Phe  
65 70 75 80

Val Ala Asp Ser Leu Gly Ala Thr Leu Gly Ala Thr Ala Ala Phe Leu  
85 90 95

Leu Gly Arg Thr Ile Gly Lys Ser Tyr Val Thr Ser Lys Ile Lys His  
100 105 110

Tyr Pro Lys Phe Gln Ala Val Ser Val Ala Ile Gln Lys Ser Gly Phe  
115 120 125

Lys Ile Val Leu Leu Arg Val Val Pro Ile Leu Pro Phe Asn Met  
130 135 140

Leu Asn Tyr Leu Leu Ser Val Thr Pro Val Arg Leu Gly Glu Tyr Met  
145 150 155 160

Leu Ala Thr Trp Leu Gly Met Met Gln Pro Ile Thr Phe Ala Leu Val  
165 170 175

Tyr Val Gly Thr Thr Leu Lys Asp Leu Ser Asp Ile Thr His Gly Trp  
180 185 190

His Glu Val Ser Val Phe Arg Trp Val Ile Met Met Val Gly Val Ala  
195 200 205

Leu Ala Val Ile Leu Ile Cys Ile Thr Arg Val Ala Lys Ser Ser  
210 215 220

Leu Asp Lys Ala Leu Ala Glu Asn Gly Thr Glu Leu Asp Gly Lys Lys  
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Asn Asp Asp Ala Ser Val Leu Pro Ile Ala Glu Pro Pro Pro Asp Leu  
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Gln Glu Pro Leu Val Ile Arg Ile Asp Pro Ser Asn Thr  
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<210> 69  
<211> 225  
<212> PRT  
<213> unidentified bacterium

<400> 69  
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Val Leu Met Leu Pro Ala Phe Leu Leu Ile Met Ala Gly Gly Ala Val  
35 40 45

Phe Gly Val Val Glu Gly Ser Leu Leu Ala Leu Leu Gly Ala Val Leu  
50 55 60

Gly Gly Thr Ala Ala Phe Leu Ile Gly Arg His Tyr Ala Arg Ala Ala  
65 70 75 80

Val Glu Arg Arg Val Ala Ser Asn Pro Thr Leu Ser Ala Leu Asp His  
85 90 95

Val Ile Gly Glu Asp Gly Leu Lys Leu Val Phe Leu Leu Arg Leu Ser  
100 105 110

Pro Ala Val Pro Phe Val Leu Thr Asn Tyr Ala Leu Ser Ile Thr Arg  
115 120 125

Val Arg Leu Arg Asp Phe Phe Ile Gly Thr Leu Gly Leu Ala Pro Ile  
130 135 140

Val Val Met Tyr Ala Ala Tyr Gly Ser Ala Ser Gly Ala Thr Pro Asn  
145 150 155 160

Ala Asp Gly Ser Ala Ala Val Thr Pro Met Met Phe Thr Ala Gly Ile  
165 170 175

Val Val Thr Val Leu Leu Gly Leu Leu Leu Ala Lys Ile Val Gln Lys  
180 185 190

Ala Leu Arg Glu Ala Glu Leu Ser Arg Leu Lys Gln Leu Glu Ile Asp  
195 200 205

Ala Thr Pro Glu Thr Pro Thr Val Leu Pro Thr Pro Ile Thr Glu Ser  
210 215 220

Ile  
225

<210> 70  
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<212> DNA  
<213> *Homo sapiens*

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<210> 71

<211> 139

<212> PRT

<213> Homo sapiens

<400> 71

Met Cys Cys Gly Ser Arg Cys Asn Leu His Cys Ser Pro Ala Ser Thr  
1 5 10 15

Phe Pro Cys Phe Leu Thr Asn Leu His Pro Ala Pro His Ala Thr Phe  
20 25 30

Ile Gln Ala Phe Asn Arg Ser Ala Val Ser Ser His Lys Leu Ala Gln  
35 40 45

Val Val Glu Met Val Ser Glu Val Gly His Leu Ser His Ser His Leu  
50 55 60

Leu Leu Pro Lys Val Ser His Val Thr Lys Leu Gln Ile Ile His Lys  
65 70 75 80

Gln Lys Ile Lys Ser Arg Leu Thr Lys Ala Met Trp Asn Val Asp Thr  
85 90 95

Trp Gly Gln Leu Asn Thr Leu Gln Val Ser Ala Val Arg Phe Glu Ala  
100 105 110

Leu Lys Ala Glu Ile Asn Gly Gln Ile Phe Lys Gly Lys Gly Tyr Arg  
115 120 125

Cys Val Gln Val Ser Pro Arg Gln Met Asp Leu  
130 135

<210> 72

<211> 2760

<212> DNA

<213> Homo sapiens

<400> 72

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<210> 73  
<211> 104  
<212> PRT  
<213> Homo sapiens

<400> 73  
Met Phe Thr Ile Val Ser Ser Ser Phe Val Pro Ser Leu Lys His  
1 5 10 15

Phe Leu Phe Pro Pro Gly Ala Ser Lys Leu Gln Leu Ser Leu Gln Ser  
20 25 30

Asp Arg Arg Lys Leu Ala Phe Ile Lys His Gln Leu Cys Ala Trp Lys  
35 40 45

Ile His Leu Gln Tyr His Asn Leu Tyr Asn Asn Ser Ala Ile Trp Ile  
50 55 60

Ser Leu Ser Ala Phe Phe Cys Leu Phe Gly Trp Leu Val Leu Val  
65 70 75 80

Val Leu Val Ser Gly Ser His Ser Val Ala Gln Ala Gly Ala Trp Trp  
85 90 95

His Asp His Asn Ser Leu Gln Pro  
100

<210> 74  
<211> 1183  
<212> DNA  
<213> Homo sapiens

<400> 74  
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catggggcag ctgatccatc cctggtgtac aaactgtga ctgcagacag atgctgagct 180  
acccaaacca acacctagcc tctccctgaa gatcctccca ggctgagaga gttctgggtg 240  
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gccagagcat gcgtctcagc agagctgtct tcccaagcct ttgatgacaa accaatttcc 360  
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<210> 75  
<211> 261  
<212> PRT  
<213> Homo sapiens

<400> 75  
Met Gly Ser Leu Pro Ser Arg Arg Lys Ser Leu Pro Ser Pro Ser Leu  
1 5 10 15

Ser Ser Ser Val Gln Gly Gln Gly Pro Val Thr Met Glu Ala Glu Arg  
20 25 30

Ser Lys Ala Thr Ala Val Ala Leu Gly Ser Phe Pro Ala Gly Gly Pro  
35 40 45

Ala Glu Leu Ser Leu Arg Leu Gly Glu Pro Leu Thr Ile Val Ser Glu  
50 55 60

Asp Gly Asp Trp Trp Thr Val Leu Ser Glu Val Ser Gly Arg Glu Tyr  
65 70 75 80

Asn Ile Pro Ser Val His Val Gly Lys Val Ser His Gly Trp Leu Tyr  
85 90 95

Glu Gly Leu Ser Arg Glu Lys Ala Glu Glu Leu Leu Leu Pro Gly  
100 105 110

Asn Pro Gly Gly Ala Phe Leu Ile Arg Glu Ser Gln Thr Arg Arg Gly  
115 120 125

Ser Tyr Ser Leu Ser Val Arg Leu Ser Arg Pro Ala Ser Trp Asp Arg  
130 135 140

Ile Arg His Tyr Arg Ile His Cys Leu Asp Asn Gly Trp Leu Tyr Ile  
145 150 155 160

Ser Pro Arg Leu Thr Phe Pro Ser Leu Gln Ala Leu Val Asp His Tyr  
165 170 175

Ser Glu Leu Ala Asp Asp Ile Cys Cys Leu Leu Lys Glu Pro Cys Val  
180 185 190

Leu Gln Arg Ala Gly Pro Leu Pro Gly Lys Asp Ile Pro Leu Pro Val  
195 200 205

Thr Val Gln Arg Thr Pro Leu Asn Trp Lys Glu Leu Asp Ser Ser Leu  
210 215 220

Leu Phe Ser Glu Ala Ala Thr Gly Glu Glu Ser Leu Leu Ser Glu Gly  
225 230 235 240

Leu Arg Glu Ser Leu Ser Phe Tyr Ile Ser Leu Asn Asp Glu Ala Val  
245 250 255

Ser Leu Asp Asp Ala  
260

<210> 76

<211> 1183

<212> DNA

<213> Homo sapiens

<400> 76

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gctgtccagc tctttccagt tgagtgggtg cctctgcaca gtcacaggtt gggtatatac 180  
cttgccaggg agcgggcccag ccctctgcag gacacagggc tccttgagta ggcagcagat 240  
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cagtcagcag tttgtacacc agggatggat cagctcccc atgctcctta gggattctgg 1080  
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tctgtcacAG agacacAGGC gtggggTCCT tggagctcta gct 1183

<210> 77  
<211> 261  
<212> PRT  
<213> Homo sapiens

<400> 77  
Met Gly Ser Leu Pro Ser Arg Arg Lys Ser Leu Pro Ser Pro Ser Leu  
1 5 10 15

Ser Ser Ser Val Gln Gln Gly Pro Val Thr Met Glu Ala Glu Arg  
20 25 30

Ser Lys Ala Thr Ala Val Ala Leu Gly Ser Phe Pro Ala Gly Gly Pro  
35 40 45

Ala Glu Leu Ser Leu Arg Leu Gly Glu Pro Leu Thr Ile Val Ser Glu  
50 55 60

Asp Gly Asp Trp Trp Thr Val Leu Ser Glu Val Ser Gly Arg Glu Tyr  
65 70 75 80

Asn Ile Pro Ser Val His Val Ala Lys Val Ser His Gly Trp Leu Tyr  
85 90 95

Glu Gly Leu Ser Arg Glu Lys Ala Glu Glu Leu Leu Leu Pro Gly  
100 105 110

Asn Pro Gly Gly Ala Phe Leu Ile Arg Glu Ser Gln Thr Arg Arg Gly  
115 120 125

Ser Tyr Ser Leu Ser Val Arg Leu Ser Arg Pro Ala Ser Trp Asp Arg  
130 135 140

Ile Arg His Tyr Arg Ile His Cys Leu Asp Asn Gly Trp Leu Tyr Ile  
145 150 155 160

Ser Pro Arg Leu Thr Phe Pro Ser Leu Gln Ala Leu Val Asp His Tyr  
165 170 175

Ser Glu Leu Ala Asp Asp Ile Cys Cys Leu Leu Lys Glu Pro Cys Val  
180 185 190

Leu Gln Arg Ala Gly Pro Leu Pro Gly Lys Asp Ile Pro Leu Pro Val  
195 200 205

Thr Val Gln Arg Thr Pro Leu Asn Trp Lys Glu Leu Asp Ser Ser Leu  
210 215 220

Leu Phe Ser Glu Ala Ala Thr Gly Glu Glu Ser Leu Leu Ser Glu Gly  
225 230 235 240

Leu Arg Glu Ser Leu Ser Phe Tyr Ile Ser Leu Asn Asp Glu Ala Val

245

250

255

Ser Leu Asp Asp Ala  
260

<210> 78  
<211> 197  
<212> PRT  
<213> Homo sapiens

<400> 78  
Asp Gly Asp Trp Trp Thr Val Leu Ser Glu Val Ser Gly Arg Glu Tyr  
1 5 10 15

Asn Ile Pro Ser Val His Val Ala Lys Val Ser His Gly Trp Leu Tyr  
20 25 30

Glu Gly Leu Ser Arg Glu Lys Ala Glu Glu Leu Leu Leu Pro Gly  
35 40 45

Asn Pro Gly Gly Ala Phe Leu Ile Arg Glu Ser Gln Thr Arg Arg Gly  
50 55 60

Ser Tyr Ser Leu Ser Val Arg Leu Ser Arg Pro Ala Ser Trp Asp Arg  
65 70 75 80

Ile Arg His Tyr Arg Ile His Cys Leu Asp Asn Gly Trp Leu Tyr Ile  
85 90 95

Ser Pro Arg Leu Thr Phe Pro Ser Leu Gln Ala Leu Val Asp His Tyr  
100 105 110

Ser Glu Leu Ala Asp Asp Ile Cys Cys Leu Leu Lys Glu Pro Cys Val  
115 120 125

Leu Gln Arg Ala Gly Pro Leu Pro Gly Lys Asp Ile Pro Leu Pro Val  
130 135 140

Thr Val Gln Arg Thr Pro Leu Asn Trp Lys Glu Leu Asp Ser Ser Leu  
145 150 155 160

Leu Phe Ser Glu Ala Ala Thr Gly Glu Glu Ser Leu Leu Ser Glu Gly  
165 170 175

Leu Arg Glu Ser Leu Ser Phe Tyr Ile Ser Leu Asn Asp Glu Ala Val  
180 185 190

Ser Leu Asp Asp Ala  
195

<210> 79  
<211> 179  
<212> PRT  
<213> Mus musculus

<400> 79  
 Met Pro Ser Val Tyr Val Ala Lys Val Ala His Gly Trp Leu Tyr Glu  
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 Gly Leu Ser Arg Glu Lys Ala Glu Glu Leu Leu Leu Pro Gly Asn  
 20 25 30  
 Pro Gly Gly Ala Phe Leu Ile Arg Glu Ser Gln Thr Arg Arg Gly Cys  
 35 40 45  
 Tyr Ser Leu Ser Val Arg Leu Ser Arg Pro Ala Ser Trp Asp Arg Ile  
 50 55 60  
 Arg His Tyr Arg Ile Gln Arg Leu Asp Asn Gly Trp Leu Tyr Ile Ser  
 65 70 75 80  
 Pro Arg Leu Thr Phe Pro Ser Leu His Ala Leu Val Glu His Tyr Ser  
 85 90 95  
 Glu Leu Ala Asp Gly Ile Cys Cys Pro Leu Arg Glu Pro Cys Val Leu  
 100 105 110  
 Gln Lys Leu Gly Pro Leu Pro Gly Lys Asp Thr Pro Pro Pro Val Thr  
 115 120 125  
 Val Pro Thr Ser Ser Leu Asn Trp Lys Lys Leu Asp Arg Ser Leu Leu  
 130 135 140  
 Phe Leu Glu Ala Pro Ala Ser Gly Glu Ala Ser Leu Leu Ser Glu Gly  
 145 150 155 160  
 Leu Arg Glu Ser Leu Ser Ser Tyr Ile Ser Leu Ala Glu Asp Pro Leu  
 165 170 175  
 Asp Asp Ala

<210> 80  
 <211> 281  
 <212> PRT  
 <213> Mus musculus

<400> 80  
 Met Gly Asn Ser Met Lys Ser Thr Ser Pro Pro Ser Glu Arg Pro Leu  
 1 5 10 15  
 Ser Ser Ser Glu Gly Leu Glu Ser Asp Phe Leu Ala Val Leu Thr Asp  
 20 25 30  
 Tyr Pro Ser Pro Asp Ile Ser Pro Pro Ile Phe Arg Arg Gly Glu Lys  
 35 40 45  
 Leu Arg Val Ile Ser Asp Glu Gly Gly Trp Trp Lys Ala Ile Ser Leu  
 50 55 60  
 Ser Thr Gly Arg Glu Ser Tyr Ile Pro Gly Ile Cys Val Ala Arg Val

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Tyr His Gly Trp Leu Phe Glu Gly Leu Gly Arg Asp Lys Ala Glu Glu			
85	90	95	
Leu Leu Gln Leu Pro Asp Thr Lys Ile Gly Ser Phe Met Ile Arg Glu			
100	105	110	
Ser Glu Thr Lys Lys Gly Phe Tyr Ser Leu Ser Val Arg His Arg Gln			
115	120	125	
Val Lys His Tyr Arg Ile Phe Arg Leu Pro Asn Asn Trp Tyr Tyr Ile			
130	135	140	
Ser Pro Arg Leu Thr Phe Gln Cys Leu Glu Asp Leu Val Thr His Tyr			
145	150	155	160
Ser Glu Val Ala Asp Gly Leu Cys Cys Val Leu Thr Thr Pro Cys Leu			
165	170	175	
Ala Gln Asn Ile Pro Ala Pro Thr Ser His Pro Ser Pro Cys Thr Ser			
180	185	190	
Pro Gly Ser Pro Val Thr Leu Arg Gln Lys Thr Phe Asp Trp Lys Arg			
195	200	205	
Val Ser Arg Leu Gln Glu Gly Ser Glu Gly Ala Glu Asn Pro Leu Arg			
210	215	220	
Val Asp Glu Ser Leu Phe Ser Tyr Gly Leu Arg Glu Ser Ile Ala Ser			
225	230	235	240
Tyr Leu Ser Leu Thr Gly Asp Asp Ser Ser Ser Phe Asp Arg Lys Lys			
245	250	255	
Lys Ser Leu Ser Leu Met Tyr Thr Gly Ser Lys Arg Lys Ser Ser Phe			
260	265	270	
Phe Ser Ala Pro Gln Tyr Phe Glu Asp			
275	280		

<210> 81  
 <211> 276  
 <212> PRT  
 <213> Homo sapiens

<400> 81  
 Met Gly Asn Ser Met Lys Ser Thr Pro Ala Pro Ala Glu Arg Pro Leu  
 1 5 10 15

Pro Asn Pro Glu Gly Leu Asp Ser Asp Phe Leu Ala Val Leu Ser Asp  
 20 25 30

Tyr Pro Ser Pro Asp Ile Ser Pro Pro Ile Phe Arg Arg Gly Glu Lys  
 35 40 45

Leu Arg Val Ile Ser Asp Glu Gly Gly Trp Trp Lys Ala Ile Ser Leu  
 50 55 60

Ser Thr Gly Arg Glu Ser Tyr Ile Pro Gly Ile Cys Val Ala Arg Val  
 65 70 75 80

Tyr His Gly Trp Leu Phe Glu Gly Leu Gly Arg Asp Lys Ala Glu Glu  
 85 90 95

Leu Leu Gln Leu Pro Asp Thr Lys Val Gly Ser Phe Met Ile Arg Glu  
 100 105 110

Ser Glu Thr Lys Lys Gly Phe Tyr Ser Leu Ser Val Arg His Arg Gln  
 115 120 125

Val Lys His Tyr Arg Ile Phe Arg Leu Pro Asn Asn Trp Tyr Tyr Ile  
 130 135 140

Ser Pro Arg Leu Thr Phe Gln Cys Leu Glu Asp Leu Val Asn His Tyr  
 145 150 155 160

Ser Glu Val Ala Asp Gly Leu Cys Cys Val Leu Thr Thr Pro Cys Leu  
 165 170 175

Thr Gln Ser Thr Ala Ala Pro Ala Val Arg Ala Ser Ser Ser Pro Val  
 180 185 190

Thr Leu Arg Gln Lys Thr Val Asp Trp Arg Arg Val Ser Arg Leu Gln  
 195 200 205

Glu Asp Pro Glu Gly Thr Glu Asn Pro Leu Gly Val Asp Glu Ser Leu  
 210 215 220

Phe Ser Tyr Gly Leu Arg Glu Ser Ile Ala Ser Tyr Leu Ser Leu Thr  
 225 230 235 240

Ser Glu Asp Asn Thr Ser Phe Asp Arg Lys Lys Lys Ser Ile Ser Leu  
 245 250 255

Met Tyr Gly Gly Ser Lys Arg Lys Ser Ser Phe Phe Ser Ser Pro Pro  
 260 265 270

Tyr Phe Glu Asp  
 275

<210> 82  
 <211> 5193  
 <212> DNA  
 <213> Homo sapiens

<400> 82  
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 ggccctgggtg ccctgcatct acctgtgggt cggccctgccc tgctacttgc tctacctgct 240  
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<211> 1527

<212> PRT

<213> Homo sapiens

<400> 83

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Gln Asn Ser Leu Leu Ala Trp Val Pro Cys Ile Tyr Leu Trp Val Ala  
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Leu Pro Cys Tyr Leu Leu Tyr Leu Arg His His Cys Arg Gly Tyr Ile  
 50 55 60

Ile Leu Ser His Leu Ser Lys Leu Lys Met Val Leu Gly Val Leu Leu  
 65 70 75 80

Trp Cys Val Ser Trp Ala Asp Leu Phe Tyr Ser Phe His Gly Leu Val  
 85 90 95

His Gly Arg Ala Pro Ala Pro Val Phe Phe Val Thr Pro Leu Val Val  
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Gly Val Thr Met Leu Leu Ala Thr Leu Leu Ile Gln Tyr Glu Arg Leu  
 115 120 125

Gln Gly Val Gln Ser Ser Gly Val Leu Ile Ile Phe Trp Phe Leu Cys  
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 Val Val Cys Ala Ile Val Pro Phe Arg Ser Lys Ile Leu Leu Ala Lys  
 145 150 155 160  
 Ala Glu Gly Glu Ile Ser Asp Pro Phe Arg Phe Thr Thr Phe Tyr Ile  
 165 170 175  
 His Phe Ala Leu Val Leu Ser Ala Leu Ile Leu Ala Cys Phe Arg Glu  
 180 185 190  
 Lys Pro Pro Phe Phe Ser Ala Lys Asn Val Asp Pro Asn Pro Tyr Pro  
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 Glu Thr Ser Ala Gly Phe Leu Ser Arg Leu Phe Phe Trp Trp Phe Thr  
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 Lys Met Ala Ile Tyr Gly Tyr Arg His Pro Leu Glu Glu Lys Asp Leu  
 225 230 235 240  
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 Leu Glu Ala Trp Arg Lys Gln Glu Lys Gln Thr Ala Arg His Lys Ala  
 260 265 270  
 Ser Ala Ala Pro Gly Lys Asn Ala Ser Gly Glu Asp Glu Val Leu Leu  
 275 280 285  
 Gly Ala Arg Pro Arg Pro Arg Lys Pro Ser Phe Leu Lys Ala Leu Leu  
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 Ala Thr Phe Gly Ser Ser Phe Leu Ile Ser Ala Cys Phe Lys Leu Ile  
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 Gln Asp Leu Leu Ser Phe Ile Asn Pro Gln Leu Leu Ser Ile Leu Ile  
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 Arg Phe Ile Ser Asn Pro Met Ala Pro Ser Trp Trp Gly Phe Leu Val  
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 Ala Gly Leu Met Phe Leu Cys Ser Met Met Gln Ser Leu Ile Leu Gln  
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 His Tyr Tyr His Tyr Ile Phe Val Thr Gly Val Lys Phe Arg Thr Gly  
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 Lys Arg Ala Ser Thr Val Gly Glu Ile Val Asn Leu Met Ser Val Asp  
 405 410 415  
 Ala Gln Arg Phe Met Asp Leu Ala Pro Phe Leu Asn Leu Leu Trp Ser  
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Ala Pro Leu Gln Ile Ile Leu Ala Ile Tyr Phe Leu Trp Gln Asn Leu  
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 Gly Pro Ser Val Leu Ala Gly Val Ala Phe Met Val Leu Leu Ile Pro  
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 Leu Asn Gly Ala Val Ala Val Lys Met Arg Ala Phe Gln Val Lys Gln  
 465 470 475 480  
 Met Lys Leu Lys Asp Ser Arg Ile Lys Leu Met Ser Glu Ile Leu Asn  
 485 490 495  
 Gly Ile Lys Val Leu Lys Leu Tyr Ala Trp Glu Pro Ser Phe Leu Lys  
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 Ala Tyr Leu His Thr Thr Thr Phe Thr Trp Met Cys Ser Pro Phe  
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 Thr Gln Ala Ser Val Ser Leu Lys Arg Ile Gln Gln Phe Leu Ser Gln  
 595 600 605  
 Glu Glu Leu Asp Pro Gln Ser Val Glu Arg Lys Thr Ile Ser Pro Gly  
 610 615 620  
 Tyr Ala Ile Thr Ile His Ser Gly Thr Phe Thr Trp Ala Gln Asp Leu  
 625 630 635 640  
 Pro Pro Thr Leu His Ser Leu Asp Ile Gln Val Pro Lys Gly Ala Leu  
 645 650 655  
 Val Ala Val Val Gly Pro Val Gly Cys Gly Lys Ser Ser Leu Val Ser  
 660 665 670  
 Ala Leu Leu Gly Glu Met Glu Lys Leu Glu Gly Lys Val His Met Lys  
 675 680 685  
 Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Cys Thr  
 690 695 700  
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Pro Gly Gly Asp Gln Thr Glu Ile Gly Glu Lys Gly Ile Asn Leu Ser  
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 Gly Gly Gln Arg Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser Asp  
 755 760 765  
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 770 775 780  
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 785 790 795 800  
 Ala Gly Lys Thr Arg Val Leu Val Thr His Gly Ile Ser Phe Leu Pro  
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 Gln Thr Asp Phe Ile Ile Val Leu Ala Asp Gly Gln Val Ser Glu Met  
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 Gly Pro Tyr Pro Ala Leu Leu Gln Arg Asn Gly Ser Phe Ala Asn Phe  
 835 840 845  
 Leu Cys Asn Tyr Ala Pro Asp Glu Asp Gln Gly His Leu Glu Asp Ser  
 850 855 860  
 Trp Thr Ala Leu Glu Gly Ala Glu Asp Lys Glu Ala Leu Leu Ile Glu  
 865 870 875 880  
 Asp Thr Leu Ser Asn His Thr Asp Leu Thr Asp Asn Asp Pro Val Thr  
 885 890 895  
 Tyr Val Val Gln Lys Gln Phe Met Arg Gln Leu Ser Ala Leu Ser Ser  
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 Asp Gly Glu Gly Gln Gly Arg Pro Val Pro Arg Arg His Leu Gly Pro  
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 Ser Glu Lys Val Gln Val Thr Glu Ala Lys Ala Asp Gly Ala Leu Thr  
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 Gln Glu Glu Lys Ala Ala Ile Gly Thr Val Glu Leu Ser Val Phe Trp  
 945 950 955 960  
 Asp Tyr Ala Lys Ala Val Gly Leu Cys Thr Thr Leu Ala Ile Cys Leu  
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 Leu Tyr Val Gly Gln Ser Ala Ala Ala Ile Gly Ala Asn Val Trp Leu  
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 Ser Ala Trp Thr Asn Asp Ala Met Ala Asp Ser Arg Gln Asn Asn Thr  
 995 1000 1005  
 Ser Leu Arg Leu Gly Val Tyr Ala Ala Leu Gly Ile Leu Gln Gly Phe  
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 Leu Val Met Leu Ala Ala Met Ala Met Ala Ala Gly Gly Ile Gln Ala  
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Ala Arg Val Leu His Gln Ala Leu Leu His Asn Lys Ile Arg Ser Pro  
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 Gln Ser Phe Phe Asp Thr Thr Pro Ser Gly Arg Ile Leu Asn Cys Phe  
 1060 1065 1070  
  
 Ser Lys Asp Ile Tyr Val Val Asp Glu Val Leu Ala Pro Val Ile Leu  
 1075 1080 1085  
  
 Met Leu Leu Asn Ser Phe Phe Asn Ala Ile Ser Thr Leu Val Val Ile  
 1090 1095 1100  
  
 Met Ala Ser Thr Pro Leu Phe Thr Val Val Ile Leu Pro Leu Ala Val  
 1105 1110 1115 1120  
  
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 1125 1130 1135  
  
 Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Ile Tyr Ser His Phe Ser  
 1140 1145 1150  
  
 Glu Thr Val Thr Gly Ala Ser Val Ile Arg Ala Tyr Asn Arg Ser Arg  
 1155 1160 1165  
  
 Asp Phe Glu Ile Ile Ser Asp Thr Lys Val Asp Ala Asn Gln Arg Ser  
 1170 1175 1180  
  
 Cys Tyr Pro Tyr Ile Ile Ser Asn Arg Trp Leu Ser Ile Gly Val Glu  
 1185 1190 1195 1200  
  
 Phe Val Gly Asn Cys Val Val Leu Phe Ala Ala Leu Phe Ala Val Ile  
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 Gly Arg Ser Ser Leu Asn Pro Gly Leu Val Gly Leu Ser Val Ser Tyr  
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 Ser Leu Gln Val Thr Phe Ala Leu Asn Trp Met Ile Arg Met Met Ser  
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 Asp Leu Glu Ser Asn Ile Val Ala Val Glu Arg Val Lys Glu Tyr Ser  
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 Lys Thr Glu Thr Glu Ala Pro Trp Val Val Glu Gly Ser Arg Pro Pro  
 1265 1270 1275 1280  
  
 Glu Gly Trp Pro Pro Arg Gly Glu Val Glu Phe Arg Asn Tyr Ser Val  
 1285 1290 1295  
  
 Arg Tyr Arg Pro Gly Leu Asp Leu Val Leu Arg Asp Leu Ser Leu His  
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 Val His Gly Gly Glu Lys Val Gly Ile Val Gly Arg Thr Gly Ala Gly  
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 1330 1335 1340

Gly Glu Ile Arg Ile Asp Gly Leu Asn Val Ala Asp Ile Gly Leu His  
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 Asp Leu Arg Ser Gln Leu Thr Ile Ile Pro Gln Asp Pro Ile Leu Phe  
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 Ser Gly Thr Leu Arg Met Asn Leu Asp Pro Phe Gly Ser Tyr Ser Glu  
 1380 1385 1390  
  
 Glu Asp Ile Trp Trp Ala Leu Glu Leu Ser His Leu His Thr Phe Val  
 1395 1400 1405  
  
 Ser Ser Gln Pro Ala Gly Leu Asp Phe Gln Cys Ser Glu Gly Gly Glu  
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 Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu Ala Arg Ala Leu  
 1425 1430 1435 1440  
  
 Leu Arg Lys Ser Arg Ile Leu Val Leu Asp Glu Ala Thr Ala Ala Ile  
 1445 1450 1455  
  
 Asp Leu Glu Thr Asp Asn Leu Ile Gln Ala Thr Ile Arg Thr Gln Phe  
 1460 1465 1470  
  
 Asp Thr Cys Thr Val Leu Thr Ile Ala His Arg Leu Asn Thr Ile Met  
 1475 1480 1485  
  
 Asp Tyr Thr Arg Val Leu Val Leu Asp Lys Gly Val Val Ala Glu Phe  
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 <400> 84  
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 Gln Asn Ser Leu Leu Ala Trp Val Pro Cys Ile Tyr Leu Trp Val Ala  
 35 40 45  
  
 Leu Pro Cys Tyr Leu Leu Tyr Leu Arg His His Cys Arg Gly Tyr Ile  
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Trp Cys Val Ser Trp Ala Asp Leu Phe Tyr Ser Phe His Gly Leu Val  
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 Val Val Cys Ala Ile Val Pro Phe Arg Ser Lys Ile Leu Leu Ala Lys  
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 Ala Glu Gly Glu Ile Ser Asp Pro Phe Arg Phe Thr Thr Phe Tyr Ile  
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 His Phe Ala Leu Val Leu Ser Ala Leu Ile Leu Ala Cys Phe Arg Glu  
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 Lys Pro Pro Phe Phe Ser Ala Lys Asn Val Asp Pro Asn Pro Tyr Pro  
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 Glu Thr Ser Ala Gly Phe Leu Ser Arg Leu Phe Phe Trp Trp Phe Thr  
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 Lys Met Ala Ile Tyr Gly Tyr Arg His Pro Leu Glu Glu Lys Asp Leu  
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 Trp Ser Leu Lys Glu Glu Asp Arg Ser Gln Met Val Val Gln Gln Leu  
                   245                  250                  255  
  
 Leu Glu Ala Trp Arg Lys Gln Glu Lys Gln Thr Ala Arg His Lys Ala  
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 Ser Ala Ala Pro Gly Lys Asn Ala Ser Gly Glu Asp Glu Val Leu Leu  
                   275                  280                  285  
  
 Gly Ala Arg Pro Arg Pro Arg Lys Pro Ser Phe Leu Lys Ala Leu Leu  
                   290                  295                  300  
  
 Ala Thr Phe Gly Ser Ser Phe Leu Ile Ser Ala Cys Phe Lys Leu Ile  
                   305                  310                  315                  320  
  
 Gln Asp Leu Leu Ser Phe Ile Asn Pro Gln Leu Leu Ser Ile Leu Ile  
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 Arg Phe Ile Ser Asn Pro Met Ala Pro Ser Trp Trp Gly Phe Leu Val  
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 Ala Gly Leu Met Phe Leu Cys Ser Met Met Gln Ser Leu Ile Leu Gln  
                   355                  360                  365  
  
 His Tyr Tyr His Tyr Ile Phe Val Thr Gly Val Lys Phe Arg Thr Gly  
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Ile Met Gly Val Ile Tyr Arg Lys Ala Leu Val Ile Thr Asn Ser Val  
385 390 395 400

Lys Arg Ala Ser Thr Val Gly Glu Ile Val Asn Leu Met Ser Val Asp  
405 410 415

Ala Gln Arg Phe Met Asp Leu Ala Pro Phe Leu Asn Leu Leu Trp Ser  
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Ala Pro Leu Gln Ile Ile Leu Ala Ile Tyr Phe Leu Trp Gln Asn Leu  
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Gly Pro Ser Val Leu Ala Gly Val Ala Phe Met Val Leu Leu Ile Pro  
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Leu Asn Gly Ala Val Ala Val Lys Met Arg Ala Phe Gln Val Lys Gln  
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Met Lys Leu Lys Asp Ser Arg Ile Lys Leu Met Ser Glu Ile Leu Asn  
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Gly Ile Lys Val Leu Lys Leu Tyr Ala Trp Glu Pro Ser Phe Leu Lys  
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Gln Val Glu Gly Ile Arg Gln Gly Glu Leu Gln Leu Leu Arg Thr Ala  
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Ala Tyr Leu His Thr Thr Phe Thr Trp Met Cys Ser Pro Phe  
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Leu Val Thr Leu Ile Thr Leu Trp Val Tyr Val Tyr Val Asp Pro Asn  
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Asn Val Leu Asp Ala Glu Lys Ala Phe Val Ser Val Ser Leu Phe Asn  
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Ile Leu Arg Leu Pro Leu Asn Met Leu Pro Gln Leu Ile Ser Asn Leu  
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Thr Gln Ala Ser Val Ser Leu Lys Arg Ile Gln Gln Phe Leu Ser Gln  
595 600 605

Glu Glu Leu Asp Pro Gln Ser Val Glu Arg Lys Thr Ile Ser Pro Gly  
610 615 620

Tyr Ala Ile Thr Ile His Ser Gly Thr Phe Thr Trp Ala Gln Asp Leu  
625 630 635 640

Pro Pro Thr Leu His Ser Leu Asp Ile Gln Val Pro Lys Gly Ala Leu  
645 650 655

Val Ala Val Val Gly Pro Val Gly Cys Gly Lys Ser Ser Leu Val Ser  
660 665 670

Ala Leu Leu Gly Glu Met Glu Lys Leu Glu Gly Lys Val His Met Lys  
675 680 685

Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Cys Thr  
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 Gly Gly Gln Arg Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser Asp  
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 Asp Thr Leu Ser Asn His Thr Asp Leu Thr Asp Asn Asp Pro Val Thr  
 885 890 895  
 Tyr Val Val Gln Lys Gln Phe Met Arg Gln Leu Ser Ala Leu Ser Ser  
 900 905 910  
 Asp Gly Glu Gly Gln Gly Arg Pro Val Pro Arg Arg His Leu Gly Pro  
 915 920 925  
 Ser Glu Lys Val Gln Val Thr Glu Ala Lys Ala Asp Gly Ala Leu Thr  
 930 935 940  
 Gln Glu Glu Lys Ala Ala Ile Gly Thr Val Glu Leu Ser Val Phe Trp  
 945 950 955 960  
 Asp Tyr Ala Lys Ala Val Gly Leu Cys Thr Thr Leu Ala Ile Cys Leu  
 965 970 975  
 Leu Tyr Val Gly Gln Ser Ala Ala Ile Gly Ala Asn Val Trp Leu  
 980 985 990

Ser Ala Trp Thr Asn Asp Ala Met Ala Asp Ser Arg Gln Asn Asn Thr  
 995 1000 1005  
 Ser Leu Arg Leu Gly Val Tyr Ala Ala Leu Gly Ile Leu Gln Gly Phe  
 1010 1015 1020  
 Leu Val Met Leu Ala Ala Met Ala Met Ala Ala Gly Gly Ile Gln Ala  
 1025 1030 1035 1040  
 Ala Arg Val Leu His Gln Ala Leu Leu His Asn Lys Ile Arg Ser Pro  
 1045 1050 1055  
 Gln Ser Phe Phe Asp Thr Thr Pro Ser Gly Arg Ile Leu Asn Cys Phe  
 1060 1065 1070  
 Ser Lys Asp Ile Tyr Val Val Asp Glu Val Leu Ala Pro Val Ile Leu  
 1075 1080 1085  
 Met Leu Leu Asn Ser Phe Phe Asn Ala Ile Ser Thr Leu Val Val Ile  
 1090 1095 1100  
 Met Ala Ser Thr Pro Leu Phe Thr Val Val Ile Leu Pro Leu Ala Val  
 1105 1110 1115 1120  
 Leu Tyr Thr Leu Val Gln Arg Phe Tyr Ala Ala Thr Ser Arg Gln Leu  
 1125 1130 1135  
 Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Ile Tyr Ser His Phe Ser  
 1140 1145 1150  
 Glu Thr Val Thr Gly Ala Ser Val Ile Arg Ala Tyr Asn Arg Ser Arg  
 1155 1160 1165  
 Asp Phe Glu Ile Ile Ser Asp Thr Lys Val Asp Ala Asn Gln Arg Ser  
 1170 1175 1180  
 Cys Tyr Pro Tyr Ile Ile Ser Asn Arg Trp Leu Ser Ile Gly Val Glu  
 1185 1190 1195 1200  
 Phe Val Gly Asn Cys Val Val Leu Phe Ala Ala Leu Phe Ala Val Ile  
 1205 1210 1215  
 Gly Arg Ser Ser Leu Asn Pro Gly Leu Val Gly Leu Ser Val Ser Tyr  
 1220 1225 1230  
 Ser Leu Gln Val Thr Phe Ala Leu Asn Trp Met Ile Arg Met Met Ser  
 1235 1240 1245  
 Asp Leu Glu Ser Asn Ile Val Ala Val Glu Arg Val Lys Glu Tyr Ser  
 1250 1255 1260  
 Lys Thr Glu Thr Glu Ala Pro Trp Val Val Glu Gly Ser Arg Pro Pro  
 1265 1270 1275 1280  
 Glu Gly Trp Pro Pro Arg Gly Glu Val Glu Phe Arg Asn Tyr Ser Val  
 1285 1290 1295

Arg Tyr Arg Pro Gly Leu Asp Leu Val Leu Arg Asp Leu Ser Leu His  
 1300 1305 1310  
 Val His Gly Gly Glu Lys Val Gly Ile Val Gly Arg Thr Gly Ala Gly  
 1315 1320 1325  
 Lys Ser Ser Met Thr Leu Cys Leu Phe Arg Ile Leu Glu Ala Ala Lys  
 1330 1335 1340  
 Gly Glu Ile Arg Ile Asp Gly Leu Asn Val Ala Asp Ile Gly Leu His  
 1345 1350 1355 1360  
 Asp Leu Arg Ser Gln Leu Thr Ile Ile Pro Gln Asp Pro Ile Leu Phe  
 1365 1370 1375  
 Ser Gly Thr Leu Arg Met Asn Leu Asp Pro Phe Gly Ser Tyr Ser Glu  
 1380 1385 1390  
 Glu Asp Ile Trp Trp Ala Leu Glu Leu Ser His Leu His Thr Phe Val  
 1395 1400 1405  
 Ser Ser Gln Pro Ala Gly Leu Asp Phe Gln Cys Ser Glu Gly Glu  
 1410 1415 1420  
 Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu Ala Arg Ala Leu  
 1425 1430 1435 1440  
 Leu Arg Lys Ser Arg Ile Leu Val Leu Asp Glu Ala Thr Ala Ala Ile  
 1445 1450 1455  
 Asp Leu Glu Thr Asp Asn Leu Ile Gln Ala Thr Ile Arg Thr Gln Phe  
 1460 1465 1470  
 Asp Thr Cys Thr Val Leu Thr Ile Ala His Arg Leu Asn Thr Ile Met  
 1475 1480 1485  
 Asp Tyr Thr Arg Val Leu Val Leu Asp Lys Gly Val Val Ala Glu Phe  
 1490 1495 1500  
 Asp Ser Pro Ala Asn Leu Ile Ala Ala Arg Gly Ile Phe Tyr Gly Met  
 1505 1510 1515 1520  
 Ala Arg Asp Ala Gly Leu Ala  
 1525

<210> 85  
 <211> 1522  
 <212> PRT  
 <213> Rattus norvegicus

<400> 85  
 Met Asp Arg Leu Cys Gly Ser Gly Glu Leu Gly Ser Lys Phe Trp Asp  
 1 5 10 15

Ser Asn Leu Thr Val Tyr Thr Asn Thr Pro Asp Leu Thr Pro Cys Phe

20	25	30
Gln Asn Ser Leu Leu Ala Trp Val Pro Cys Ile Tyr Leu Trp Ala Ala		
35	40	45
Leu Pro Cys Tyr Leu Phe Tyr Leu Arg His His Arg Leu Gly Tyr Ile		
50	55	60
Val Leu Ser Cys Leu Ser Arg Leu Lys Thr Ala Leu Gly Val Leu Leu		
65	70	75
Trp Cys Ile Ser Trp Val Asp Leu Phe Tyr Ser Phe His Gly Leu Val		
85	90	95
His Gly Ser Ser Pro Ala Pro Val Phe Phe Ile Thr Pro Leu Leu Val		
100	105	110
Gly Ile Thr Met Leu Leu Ala Thr Leu Leu Ile Gln Tyr Glu Arg Leu		
115	120	125
Arg Gly Val Arg Ser Ser Gly Val Leu Ile Ile Phe Trp Leu Leu Cys		
130	135	140
Val Ile Cys Ala Ile Ile Pro Phe Arg Ser Lys Ile Leu Leu Ala Leu		
145	150	155
Ala Glu Gly Lys Ile Leu Asp Pro Phe Arg Phe Thr Thr Phe Tyr Ile		
165	170	175
Tyr Phe Ala Leu Val Leu Cys Ala Phe Ile Leu Ser Cys Phe Gln Glu		
180	185	190
Lys Pro Pro Leu Phe Ser Pro Glu Asn Leu Asp Thr Asn Pro Cys Pro		
195	200	205
Glu Ala Ser Ala Gly Phe Phe Ser Arg Leu Ser Phe Trp Trp Phe Thr		
210	215	220
Lys Leu Ala Ile Leu Gly Tyr Arg Arg Pro Leu Glu Asp Ser Asp Leu		
225	230	235
Trp Ser Leu Ser Glu Glu Asp Cys Ser His Lys Val Val Gln Arg Leu		
245	250	255
Leu Glu Ala Trp Gln Lys Gln Gln Thr Gln Ala Ser Gly Pro Gln Thr		
260	265	270
Ala Ala Leu Glu Pro Lys Ile Ala Gly Glu Asp Glu Val Leu Leu Lys		
275	280	285
Ala Arg Pro Lys Thr Lys Lys Pro Ser Phe Leu Arg Ala Leu Val Arg		
290	295	300
Thr Phe Thr Ser Ser Leu Leu Met Gly Ala Cys Phe Lys Leu Ile Gln		
305	310	315
Asp Leu Ser Pro Ser Ser Thr His Ser Cys Ser Ala Ser Ser Ser Gly		

	325	330	335
Leu Phe Arg Pro His Gly Pro Tyr Trp Trp Gly Phe Leu Leu Ala Gly			
340	345	350	
Leu Met Phe Val Ser Ser Thr Met Gln Thr Leu Ile Leu His Gln His			
355	360	365	
Tyr His Cys Ile Phe Val Met Ala Leu Arg Ile Arg Thr Ala Ile Ile			
370	375	380	
Gly Val Ile Tyr Arg Lys Ala Leu Thr Ile Thr Asn Ser Val Lys Arg			
385	390	395	400
Glu Tyr Thr Val Gly Glu Met Val Asn Leu Met Ser Val Asp Ala Gln			
405	410	415	
Arg Phe Met Asp Val Ser Pro Phe Ile Asn Leu Leu Trp Ser Ala Pro			
420	425	430	
Leu Gln Val Ile Leu Ala Ile Tyr Phe Leu Trp Gln Ile Leu Gly Pro			
435	440	445	
Ser Ala Leu Ala Gly Val Ala Val Ile Val Leu Leu Ile Pro Leu Asn			
450	455	460	
Gly Ala Val Ser Met Lys Met Lys Thr Tyr Gln Val Gln Gln Met Lys			
465	470	475	480
Phe Lys Asp Ser Arg Ile Lys Leu Met Ser Glu Ile Leu Asn Gly Ile			
485	490	495	
Lys Val Leu Lys Leu Tyr Ala Trp Glu Pro Thr Phe Leu Glu Gln Val			
500	505	510	
Glu Gly Ile Arg Gln Gly Glu Leu Gln Leu Leu Arg Lys Gly Ala Tyr			
515	520	525	
Leu Gln Ala Ile Ser Thr Phe Ile Trp Val Cys Thr Pro Phe Met Val			
530	535	540	
Thr Leu Ile Thr Leu Gly Val Tyr Val Cys Val Asp Lys Asn Asn Val			
545	550	555	560
Leu Asp Ala Glu Lys Ala Phe Val Ser Leu Ser Leu Phe Asn Ile Leu			
565	570	575	
Lys Ile Pro Leu Asn Leu Leu Pro Gln Leu Ile Ser Gly Met Thr Gln			
580	585	590	
Thr Ser Val Ser Leu Lys Arg Ile Gln Asp Phe Leu Asn Gln Asp Glu			
595	600	605	
Leu Asp Pro Gln Cys Val Glu Arg Lys Thr Ile Ser Pro Gly Arg Ala			
610	615	620	
Ile Thr Ile His Asn Gly Thr Phe Ser Trp Ser Lys Asp Leu Pro Pro			

625	630	635	640
Thr Leu His Ser Ile Asn Ile Gln Ile Pro Lys Gly Ala Leu Val Ala			
645	650	655	
Val Val Gly Pro Val Gly Cys Gly Lys Ser Ser Leu Val Ser Ala Leu			
660	665	670	
Leu Gly Glu Met Glu Lys Leu Glu Gly Ala Val Ser Val Lys Gly Ser			
675	680	685	
Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Cys Thr Leu Gln			
690	695	700	
Glu Asn Val Leu Phe Gly Gln Pro Met Asn Pro Lys Arg Tyr Gln Gln			
705	710	715	720
Ala Leu Glu Thr Cys Ala Leu Leu Ala Asp Leu Asp Val Leu Pro Gly			
725	730	735	
Gly Asp Gln Thr Glu Ile Gly Glu Lys Gly Ile Asn Leu Ser Gly Gly			
740	745	750	
Gln Arg Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser Asp Ala Asn			
755	760	765	
Ile Phe Leu Leu Asp Asp Pro Leu Ser Ala Val Asp Ser His Val Ala			
770	775	780	
Lys His Ile Phe Asp Gln Val Ile Gly Pro Glu Gly Val Leu Ala Gly			
785	790	795	800
Lys Thr Arg Val Leu Val Thr His Gly Ile Ser Phe Leu Pro Gln Thr			
805	810	815	
Asp Phe Ile Ile Val Leu Ala Asp Gly Gln Ile Thr Glu Met Gly His			
820	825	830	
Tyr Ser Glu Leu Leu Gln His Asp Gly Ser Phe Ala Asn Phe Leu Arg			
835	840	845	
Asn Tyr Ala Pro Asp Glu Asn Gln Glu Ala Asn Glu Gly Val Leu Gln			
850	855	860	
His Ala Asn Glu Glu Val Leu Leu Leu Glu Asp Thr Leu Ser Thr His			
865	870	875	880
Thr Asp Leu Thr Asp Thr Glu Pro Ala Ile Tyr Glu Val Arg Lys Gln			
885	890	895	
Phe Met Arg Glu Met Ser Ser Leu Ser Ser Glu Gly Glu Gly Gln Asn			
900	905	910	
Arg Pro Val Leu Lys Arg Tyr Thr Ser Ser Leu Glu Lys Glu Val Pro			
915	920	925	
Ala Thr Gln Thr Lys Glu Thr Gly Ala Leu Ile Lys Glu Glu Ile Ala			

930	935	940
Glu Thr Gly Asn Val Lys Leu Ser Val Tyr Trp Asp Tyr Ala Lys Ser		
945	950	955
960		
Val Gly Leu Cys Thr Thr Leu Phe Ile Cys Leu Leu Tyr Ala Gly Gln		
965	970	975
Asn Ala Val Ala Ile Gly Ala Asn Val Trp Leu Ser Ala Trp Thr Asn		
980	985	990
Asp Val Glu Glu His Gly Gln Gln Asn Asn Thr Ser Val Arg Leu Gly		
995	1000	1005
Val Tyr Ala Thr Leu Gly Ile Leu Gln Gly Leu Leu Val Met Leu Ser		
1010	1015	1020
Ala Phe Thr Met Val Val Gly Ala Ile Gln Ala Ala Arg Leu Leu His		
1025	1030	1035
1040		
Thr Ala Leu Leu His Asn Gln Ile Arg Ala Pro Gln Ser Phe Phe Asp		
1045	1050	1055
Thr Thr Pro Ser Gly Arg Ile Leu Asn Arg Phe Ser Lys Asp Ile Tyr		
1060	1065	1070
Val Ile His Glu Val Leu Ala Pro Thr Ile Leu Met Leu Phe Asn Ser		
1075	1080	1085
Phe Tyr Thr Ser Ile Ser Thr Ile Val Val Ile Val Ala Ser Thr Pro		
1090	1095	1100
Leu Phe Cys Val Val Leu Pro Leu Ala Val Phe Tyr Gly Phe Val		
1105	1110	1115
1120		
Gln Arg Phe Tyr Val Ala Thr Ser Arg Gln Leu Lys Arg Leu Glu Ser		
1125	1130	1135
Val Ser Arg Ser Pro Ile Phe Ser His Phe Ser Glu Thr Val Thr Gly		
1140	1145	1150
Thr Ser Val Ile Arg Ala Tyr Gly Arg Val Gln Asp Phe Lys Val Leu		
1155	1160	1165
Ser Asp Ala Lys Val Asp Ser Asn Gln Lys Thr Thr Tyr Pro Tyr Ile		
1170	1175	1180
Ala Ser Asn Arg Trp Leu Gly Val His Val Glu Phe Val Gly Asn Cys		
1185	1190	1195
1200		
Val Val Leu Phe Ser Ala Leu Phe Ala Val Ile Gly Arg Asn Ser Leu		
1205	1210	1215
Asn Pro Gly Leu Val Gly Leu Ser Val Ser Tyr Ala Leu Gln Val Thr		
1220	1225	1230
Leu Ser Leu Asn Trp Met Ile Arg Thr Leu Ser Asp Leu Glu Ser Asn		

1235	1240	1245	
Ile Ile Ala Val Glu Arg Val Lys Glu Tyr Ser Lys Thr Glu Thr Glu			
1250	1255	1260	
Ala Pro Trp Val Leu Glu Ser Asn Arg Ala Pro Glu Gly Trp Pro Arg			
1265	1270	1275	1280
Ser Gly Val Val Glu Phe Arg Asn Tyr Ser Val Arg Tyr Arg Pro Gly			
1285	1290	1295	
Leu Glu Leu Val Leu Lys Asn Leu Thr Leu His Val Gln Gly Gly Glu			
1300	1305	1310	
Lys Val Gly Ile Val Gly Arg Thr Gly Ala Gly Lys Ser Ser Met Thr			
1315	1320	1325	
Leu Cys Leu Phe Arg Ile Leu Glu Ala Ala Glu Gly Glu Ile Phe Ile			
1330	1335	1340	
Asp Gly Leu Asn Val Ala His Ile Gly Leu His Asp Leu Arg Ser Gln			
1345	1350	1355	1360
Leu Thr Ile Ile Pro Gln Asp Pro Ile Leu Phe Ser Gly Thr Leu Arg			
1365	1370	1375	
Met Asn Leu Asp Pro Phe Gly Arg Tyr Ser Asp Glu Asp Ile Trp Arg			
1380	1385	1390	
Thr Leu Glu Leu Ser His Leu Ser Ala Phe Val Ser Ser Gln Pro Thr			
1395	1400	1405	
Gly Leu Asp Phe Gln Cys Ser Glu Gly Gly Asp Asn Leu Ser Val Gly			
1410	1415	1420	
Gln Arg Gln Leu Val Cys Leu Ala Arg Ala Leu Leu Arg Lys Ser Arg			
1425	1430	1435	1440
Val Leu Val Leu Asp Glu Ala Thr Ala Ala Ile Asp Leu Glu Thr Asp			
1445	1450	1455	
Asp Leu Ile Gln Gly Thr Ile Arg Thr Gln Phe Glu Asp Cys Thr Val			
1460	1465	1470	
Leu Thr Ile Ala His Arg Leu Asn Thr Ile Met Asp Tyr Asn Arg Val			
1475	1480	1485	
Leu Val Leu Asp Lys Gly Val Val Ala Glu Phe Asp Ser Pro Val Asn			
1490	1495	1500	
Leu Ile Ala Ala Gly Gly Ile Phe Tyr Gly Met Ala Lys Asp Ala Gly			
1505	1510	1515	1520
Leu Ala			

<210> 86  
<211> 1531  
<212> PRT  
<213> Homo sapiens

<400> 86  
Met Ala Leu Arg Gly Phe Cys Ser Ala Asp Gly Ser Asp Pro Leu Trp  
1 5 10 15  
  
Asp Trp Asn Val Thr Trp Asn Thr Ser Asn Pro Asp Phe Thr Lys Cys  
20 25 30  
  
Phe Gln Asn Thr Val Leu Val Trp Val Pro Cys Phe Tyr Leu Trp Ala  
35 40 45  
  
Cys Phe Pro Phe Tyr Phe Leu Tyr Leu Ser Arg His Asp Arg Gly Tyr  
50 55 60  
  
Ile Gln Met Thr Pro Leu Asn Lys Thr Lys Thr Ala Leu Gly Phe Leu  
65 70 75 80  
  
Leu Trp Ile Val Cys Trp Ala Asp Leu Phe Tyr Ser Phe Trp Glu Arg  
85 90 95  
  
Ser Arg Gly Ile Phe Leu Ala Pro Val Phe Leu Val Ser Pro Thr Leu  
100 105 110  
  
Leu Gly Ile Thr Thr Leu Leu Ala Thr Phe Leu Ile Gln Leu Glu Arg  
115 120 125  
  
Arg Lys Gly Val Gln Ser Ser Gly Ile Met Leu Thr Phe Trp Leu Val  
130 135 140  
  
Ala Leu Val Cys Ala Leu Ala Ile Leu Arg Ser Lys Ile Met Thr Ala  
145 150 155 160  
  
Leu Lys Glu Asp Ala Gln Val Asp Leu Phe Arg Asp Ile Thr Phe Tyr  
165 170 175  
  
Val Tyr Phe Ser Leu Leu Leu Ile Gln Leu Val Leu Ser Cys Phe Ser  
180 185 190  
  
Asp Arg Ser Pro Leu Phe Ser Glu Thr Ile His Asp Pro Asn Pro Cys  
195 200 205  
  
Pro Glu Ser Ser Ala Ser Phe Leu Ser Arg Ile Thr Phe Trp Trp Ile  
210 215 220  
  
Thr Gly Leu Ile Val Arg Gly Tyr Arg Gln Pro Leu Glu Gly Ser Asp  
225 230 235 240  
  
Leu Trp Ser Leu Asn Lys Glu Asp Thr Ser Glu Gln Val Val Pro Val  
245 250 255  
  
Leu Val Lys Asn Trp Lys Lys Glu Cys Ala Lys Thr Arg Lys Gln Pro  
260 265 270

Val Lys Val Val Tyr Ser Ser Lys Asp Pro Ala Gln Pro Lys Glu Ser  
 275 280 285  
 Ser Lys Val Asp Ala Asn Glu Glu Val Glu Ala Leu Ile Val Lys Ser  
 290 295 300  
 Pro Gln Lys Glu Trp Asn Pro Ser Leu Phe Lys Val Leu Tyr Lys Thr  
 305 310 315 320  
 Phe Gly Pro Tyr Phe Leu Met Ser Phe Phe Lys Ala Ile His Asp  
 325 330 335  
 Leu Met Met Phe Ser Gly Pro Gln Ile Leu Lys Leu Leu Ile Lys Phe  
 340 345 350  
 Val Asn Asp Thr Lys Ala Pro Asp Trp Gln Gly Tyr Phe Tyr Thr Val  
 355 360 365  
 Leu Leu Phe Val Thr Ala Cys Leu Gln Thr Leu Val Leu His Gln Tyr  
 370 375 380  
 Phe His Ile Cys Phe Val Ser Gly Met Arg Ile Lys Thr Ala Val Ile  
 385 390 395 400  
 Gly Ala Val Tyr Arg Lys Ala Leu Val Ile Thr Asn Ser Ala Arg Lys  
 405 410 415  
 Ser Ser Thr Val Gly Glu Ile Val Asn Leu Met Ser Val Asp Ala Gln  
 420 425 430  
 Arg Phe Met Asp Leu Ala Thr Tyr Ile Asn Met Ile Trp Ser Ala Pro  
 435 440 445  
 Leu Gln Val Ile Leu Ala Leu Tyr Leu Leu Trp Leu Asn Leu Gly Pro  
 450 455 460  
 Ser Val Leu Ala Gly Val Ala Val Met Val Leu Met Val Pro Val Asn  
 465 470 475 480  
 Ala Val Met Ala Met Lys Thr Lys Thr Tyr Gln Val Ala His Met Lys  
 485 490 495  
 Ser Lys Asp Asn Arg Ile Lys Leu Met Asn Glu Ile Leu Asn Gly Ile  
 500 505 510  
 Lys Val Leu Lys Leu Tyr Ala Trp Glu Leu Ala Phe Lys Asp Lys Val  
 515 520 525  
 Leu Ala Ile Arg Gln Glu Glu Leu Lys Val Leu Lys Lys Ser Ala Tyr  
 530 535 540  
 Leu Ser Ala Val Gly Thr Phe Thr Trp Val Cys Thr Pro Phe Leu Val  
 545 550 555 560  
 Ala Leu Cys Thr Phe Ala Val Tyr Val Thr Ile Asp Glu Asn Asn Ile  
 565 570 575

Leu Asp Ala Gln Thr Ala Phe Val Ser Leu Ala Leu Phe Asn Ile Leu  
 580 585 590  
 Arg Phe Pro Leu Asn Ile Leu Pro Met Val Ile Ser Ser Ile Val Gln  
 595 600 605  
 Ala Ser Val Ser Leu Lys Arg Leu Arg Ile Phe Leu Ser His Glu Glu  
 610 615 620  
 Leu Glu Pro Asp Ser Ile Glu Arg Arg Pro Val Lys Asp Gly Gly  
 625 630 635 640  
 Thr Asn Ser Ile Thr Val Arg Asn Ala Thr Phe Thr Trp Ala Arg Ser  
 645 650 655  
 Asp Pro Pro Thr Leu Asn Gly Ile Thr Phe Ser Ile Pro Glu Gly Ala  
 660 665 670  
 Leu Val Ala Val Val Gly Gln Val Gly Cys Gly Lys Ser Ser Leu Leu  
 675 680 685  
 Ser Ala Leu Leu Ala Glu Met Asp Lys Val Glu Gly His Val Ala Ile  
 690 695 700  
 Lys Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Asp  
 705 710 715 720  
 Ser Leu Arg Glu Asn Ile Leu Phe Gly Cys Gln Leu Glu Glu Pro Tyr  
 725 730 735  
 Tyr Arg Ser Val Ile Gln Ala Cys Ala Leu Leu Pro Asp Leu Glu Ile  
 740 745 750  
 Leu Pro Ser Gly Asp Arg Thr Glu Ile Gly Glu Lys Gly Val Asn Leu  
 755 760 765  
 Ser Gly Gly Gln Lys Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser  
 770 775 780  
 Asn Ala Asp Ile Tyr Leu Phe Asp Asp Pro Leu Ser Ala Val Asp Ala  
 785 790 795 800  
 His Val Gly Lys His Ile Phe Glu Asn Val Ile Gly Pro Lys Gly Met  
 805 810 815  
 Leu Lys Asn Lys Thr Arg Ile Leu Val Thr His Ser Met Ser Tyr Leu  
 820 825 830  
 Pro Gln Val Asp Val Ile Ile Val Met Ser Gly Gly Lys Ile Ser Glu  
 835 840 845  
 Met Gly Ser Tyr Gln Glu Leu Leu Ala Arg Asp Gly Ala Phe Ala Glu  
 850 855 860  
 Phe Leu Arg Thr Tyr Ala Ser Thr Glu Gln Glu Gln Asp Ala Glu Glu  
 865 870 875 880

Asn Gly Val Thr Gly Val Ser Gly Pro Gly Lys Glu Ala Lys Gln Met  
 885 890 895

Glu Asn Gly Met Leu Val Thr Asp Ser Ala Gly Lys Gln Leu Gln Arg  
 900 905 910

Gln Leu Ser Ser Ser Ser Tyr Ser Gly Asp Ile Ser Arg His His  
 915 920 925

Asn Ser Thr Ala Glu Leu Gln Lys Ala Glu Ala Lys Lys Glu Glu Thr  
 930 935 940

Trp Lys Leu Met Glu Ala Asp Lys Ala Gln Thr Gly Gln Val Lys Leu  
 945 950 955 960

Ser Val Tyr Trp Asp Tyr Met Lys Ala Ile Gly Leu Phe Ile Ser Phe  
 965 970 975

Leu Ser Ile Phe Leu Phe Met Cys Asn His Val Ser Ala Leu Ala Ser  
 980 985 990

Asn Tyr Trp Leu Ser Leu Trp Thr Asp Asp Pro Ile Val Asn Gly Thr  
 995 1000 1005

Gln Glu His Thr Lys Val Arg Leu Ser Val Tyr Gly Ala Leu Gly Ile  
 1010 1015 1020

Ser Gln Gly Ile Ala Val Phe Gly Tyr Ser Met Ala Val Ser Ile Gly  
 1025 1030 1035 1040

Gly Ile Leu Ala Ser Arg Cys Leu His Val Asp Leu Leu His Ser Ile  
 1045 1050 1055

Leu Arg Ser Pro Met Ser Phe Phe Glu Arg Thr Pro Ser Gly Asn Leu  
 1060 1065 1070

Val Asn Arg Phe Ser Lys Glu Leu Asp Thr Val Asp Ser Met Ile Pro  
 1075 1080 1085

Glu Val Ile Lys Met Phe Met Gly Ser Leu Phe Asn Val Ile Gly Ala  
 1090 1095 1100

Cys Ile Val Ile Leu Leu Ala Thr Pro Ile Ala Ala Ile Ile Ile Pro  
 1105 1110 1115 1120

Pro Leu Gly Leu Ile Tyr Phe Phe Val Gln Arg Phe Tyr Val Ala Ser  
 1125 1130 1135

Ser Arg Gln Leu Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Val Tyr  
 1140 1145 1150

Ser His Phe Asn Glu Thr Leu Leu Gly Val Ser Val Ile Arg Ala Phe  
 1155 1160 1165

Glu Glu Gln Glu Arg Phe Ile His Gln Ser Asp Leu Lys Val Asp Glu  
 1170 1175 1180

Asn Gln Lys Ala Tyr Tyr Pro Ser Ile Val Ala Asn Arg Trp Leu Ala  
 1185 1190 1195 1200  
 Val Arg Leu Glu Cys Val Gly Asn Cys Ile Val Leu Phe Ala Ala Leu  
 1205 1210 1215  
 Phe Ala Val Ile Ser Arg His Ser Leu Ser Ala Gly Leu Val Gly Leu  
 1220 1225 1230  
 Ser Val Ser Tyr Ser Leu Gln Val Thr Thr Tyr Leu Asn Trp Leu Val  
 1235 1240 1245  
 Arg Met Ser Ser Glu Met Glu Thr Asn Ile Val Ala Val Glu Arg Leu  
 1250 1255 1260  
 Lys Glu Tyr Ser Glu Thr Glu Lys Glu Ala Pro Trp Gln Ile Gln Glu  
 1265 1270 1275 1280  
 Thr Ala Pro Pro Ser Ser Trp Pro Gln Val Gly Arg Val Glu Phe Arg  
 1285 1290 1295  
 Asn Tyr Cys Leu Arg Tyr Arg Glu Asp Leu Asp Phe Val Leu Arg His  
 1300 1305 1310  
 Ile Asn Val Thr Ile Asn Gly Gly Glu Lys Val Gly Ile Val Gly Arg  
 1315 1320 1325  
 Thr Gly Ala Gly Lys Ser Ser Leu Thr Leu Gly Leu Phe Arg Ile Asn  
 1330 1335 1340  
 Glu Ser Ala Glu Gly Glu Ile Ile Asp Gly Ile Asn Ile Ala Lys  
 1345 1350 1355 1360  
 Ile Gly Leu His Asp Leu Arg Phe Lys Ile Thr Ile Ile Pro Gln Asp  
 1365 1370 1375  
 Pro Val Leu Phe Ser Gly Ser Leu Arg Met Asn Leu Asp Pro Phe Ser  
 1380 1385 1390  
 Gln Tyr Ser Asp Glu Glu Val Trp Thr Ser Leu Glu Leu Ala His Leu  
 1395 1400 1405  
 Lys Asp Phe Val Ser Ala Leu Pro Asp Lys Leu Asp His Glu Cys Ala  
 1410 1415 1420  
 Glu Gly Gly Glu Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu  
 1425 1430 1435 1440  
 Ala Arg Ala Leu Leu Arg Lys Thr Lys Ile Leu Val Leu Asp Glu Ala  
 1445 1450 1455  
 Thr Ala Ala Val Asp Leu Glu Thr Asp Asp Leu Ile Gln Ser Thr Ile  
 1460 1465 1470  
 Arg Thr Gln Phe Glu Asp Cys Thr Val Leu Thr Ile Ala His Arg Leu  
 1475 1480 1485

Asn Thr Ile Met Asp Tyr Thr Arg Val Ile Val Leu Asp Lys Gly Glu  
1490 1495 1500

Ile Gln Glu Tyr Gly Ala Pro Ser Asp Leu Leu Gln Gln Arg Gly Leu  
1505 1510 1515 1520

Phe Tyr Ser Met Ala Lys Asp Ala Gly Leu Val  
1525 1530

<210> 87  
<211> 1515  
<212> PRT  
<213> Homo sapiens

<400> 87  
Asp Trp Asn Val Thr Trp Asn Thr Ser Asn Pro Asp Phe Thr Lys Cys  
1 5 10 15

Phe Gln Asn Thr Val Leu Val Trp Val Pro Cys Phe Tyr Leu Trp Ala  
20 25 30

Cys Phe Pro Phe Tyr Phe Leu Tyr Leu Ser Arg His Asp Arg Gly Tyr  
35 40 45

Ile Gln Met Thr Pro Leu Asn Lys Thr Lys Thr Ala Leu Gly Phe Leu  
50 55 60

Leu Trp Ile Val Cys Trp Ala Asp Leu Phe Tyr Ser Phe Trp Glu Arg  
65 70 75 80

Ser Arg Gly Ile Phe Leu Ala Pro Val Phe Leu Val Ser Pro Thr Leu  
85 90 95

Leu Gly Ile Thr Thr Leu Leu Ala Thr Phe Leu Ile Gln Leu Glu Arg  
100 105 110

Arg Lys Gly Val Gln Ser Ser Gly Ile Met Leu Thr Phe Trp Leu Val  
115 120 125

Ala Leu Val Cys Ala Leu Ala Ile Leu Arg Ser Lys Ile Met Thr Ala  
130 135 140

Leu Lys Glu Asp Ala Gln Val Asp Leu Phe Arg Asp Ile Thr Phe Tyr  
145 150 155 160

Val Tyr Phe Ser Leu Leu Leu Ile Gln Leu Val Leu Ser Cys Phe Ser  
165 170 175

Asp Arg Ser Pro Leu Phe Ser Glu Thr Ile His Asp Pro Asn Pro Cys  
180 185 190

Pro Glu Ser Ser Ala Ser Phe Leu Ser Arg Ile Thr Phe Trp Trp Ile  
195 200 205

Thr Gly Leu Ile Val Arg Gly Tyr Arg Gln Pro Leu Glu Gly Ser Asp  
210 215 220

Leu Trp Ser Leu Asn Lys Glu Asp Thr Ser Glu Gln Val Val Pro Val  
 225 230 235 240  
 Leu Val Lys Asn Trp Lys Lys Glu Cys Ala Lys Thr Arg Lys Gln Pro  
 245 250 255  
 Val Lys Val Val Tyr Ser Ser Lys Asp Pro Ala Gln Pro Lys Glu Ser  
 260 265 270  
 Ser Lys Val Asp Ala Asn Glu Glu Val Glu Ala Leu Ile Val Lys Ser  
 275 280 285  
 Pro Gln Lys Glu Trp Asn Pro Ser Leu Phe Lys Val Leu Tyr Lys Thr  
 290 295 300  
 Phe Gly Pro Tyr Phe Leu Met Ser Phe Phe Phe Lys Ala Ile His Asp  
 305 310 315 320  
 Leu Met Met Phe Ser Gly Pro Gln Ile Leu Lys Leu Leu Ile Lys Phe  
 325 330 335  
 Val Asn Asp Thr Lys Ala Pro Asp Trp Gln Gly Tyr Phe Tyr Thr Val  
 340 345 350  
 Leu Leu Phe Val Thr Ala Cys Leu Gln Thr Leu Val Leu His Gln Tyr  
 355 360 365  
 Phe His Ile Cys Phe Val Ser Gly Met Arg Ile Lys Thr Ala Val Ile  
 370 375 380  
 Gly Ala Val Tyr Arg Lys Ala Leu Val Ile Thr Asn Ser Ala Arg Lys  
 385 390 395 400  
 Ser Ser Thr Val Gly Glu Ile Val Asn Leu Met Ser Val Asp Ala Gln  
 405 410 415  
 Arg Phe Met Asp Leu Ala Thr Tyr Ile Asn Met Ile Trp Ser Ala Pro  
 420 425 430  
 Leu Gln Val Ile Leu Ala Leu Tyr Leu Leu Trp Leu Asn Leu Gly Pro  
 435 440 445  
 Ser Val Leu Ala Gly Val Ala Val Met Val Leu Met Val Pro Val Asn  
 450 455 460  
 Ala Val Met Ala Met Lys Thr Lys Thr Tyr Gln Val Ala His Met Lys  
 465 470 475 480  
 Ser Lys Asp Asn Arg Ile Lys Leu Met Asn Glu Ile Leu Asn Gly Ile  
 485 490 495  
 Lys Val Leu Lys Leu Tyr Ala Trp Glu Leu Ala Phe Lys Asp Lys Val  
 500 505 510  
 Leu Ala Ile Arg Gln Glu Glu Leu Lys Val Leu Lys Lys Ser Ala Tyr  
 515 520 525

Leu Ser Ala Val Gly Thr Phe Thr Trp Val Cys Thr Pro Phe Leu Val  
 530 535 540  
 Ala Leu Cys Thr Phe Ala Val Tyr Val Thr Ile Asp Glu Asn Asn Ile  
 545 550 555 560  
 Leu Asp Ala Gln Thr Ala Phe Val Ser Leu Ala Leu Phe Asn Ile Leu  
 565 570 575  
 Arg Phe Pro Leu Asn Ile Leu Pro Met Val Ile Ser Ser Ile Val Gln  
 580 585 590  
 Ala Ser Val Ser Leu Lys Arg Leu Arg Ile Phe Leu Ser His Glu Glu  
 595 600 605  
 Leu Glu Pro Asp Ser Ile Glu Arg Arg Pro Val Lys Asp Gly Gly  
 610 615 620  
 Thr Asn Ser Ile Thr Val Arg Asn Ala Thr Phe Thr Trp Ala Arg Ser  
 625 630 635 640  
 Asp Pro Pro Thr Leu Asn Gly Ile Thr Phe Ser Ile Pro Glu Gly Ala  
 645 650 655  
 Leu Val Ala Val Val Gly Gln Val Gly Cys Gly Lys Ser Ser Leu Leu  
 660 665 670  
 Ser Ala Leu Leu Ala Glu Met Asp Lys Val Glu Gly His Val Ala Ile  
 675 680 685  
 Lys Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Asp  
 690 695 700  
 Ser Leu Arg Glu Asn Ile Leu Phe Gly Cys Gln Leu Glu Glu Pro Tyr  
 705 710 715 720  
 Tyr Arg Ser Val Ile Gln Ala Cys Ala Leu Leu Pro Asp Leu Glu Ile  
 725 730 735  
 Leu Pro Ser Gly Asp Arg Thr Glu Ile Gly Glu Lys Gly Val Asn Leu  
 740 745 750  
 Ser Gly Gly Gln Lys Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser  
 755 760 765  
 Asn Ala Asp Ile Tyr Leu Phe Asp Asp Pro Leu Ser Ala Val Asp Ala  
 770 775 780  
 His Val Gly Lys His Ile Phe Glu Asn Val Ile Gly Pro Lys Gly Met  
 785 790 795 800  
 Leu Lys Asn Lys Thr Arg Ile Leu Val Thr His Ser Met Ser Tyr Leu  
 805 810 815  
 Pro Gln Val Asp Val Ile Ile Val Met Ser Gly Gly Lys Ile Ser Glu  
 820 825 830

Met Gly Ser Tyr Gln Glu Leu Leu Ala Arg Asp Gly Ala Phe Ala Glu  
 835 840 845  
 Phe Leu Arg Thr Tyr Ala Ser Thr Glu Gln Glu Gln Asp Ala Glu Glu  
 850 855 860  
 Asn Gly Val Thr Gly Val Ser Gly Pro Gly Lys Glu Ala Lys Gln Met  
 865 870 875 880  
 Glu Asn Gly Met Leu Val Thr Asp Ser Ala Gly Lys Gln Leu Gln Arg  
 885 890 895  
 Gln Leu Ser Ser Ser Ser Tyr Ser Gly Asp Ile Ser Arg His His  
 900 905 910  
 Asn Ser Thr Ala Glu Leu Gln Lys Ala Glu Ala Lys Lys Glu Glu Thr  
 915 920 925  
 Trp Lys Leu Met Glu Ala Asp Lys Ala Gln Thr Gly Gln Val Lys Leu  
 930 935 940  
 Ser Val Tyr Trp Asp Tyr Met Lys Ala Ile Gly Leu Phe Ile Ser Phe  
 945 950 955 960  
 Leu Ser Ile Phe Leu Phe Met Cys Asn His Val Ser Ala Leu Ala Ser  
 965 970 975  
 Asn Tyr Trp Leu Ser Leu Trp Thr Asp Asp Pro Ile Val Asn Gly Thr  
 980 985 990  
 Gln Glu His Thr Lys Val Arg Leu Ser Val Tyr Gly Ala Leu Gly Ile  
 995 1000 1005  
 Ser Gln Gly Ile Ala Val Phe Gly Tyr Ser Met Ala Val Ser Ile Gly  
 1010 1015 1020  
 Gly Ile Leu Ala Ser Arg Cys Leu His Val Asp Leu Leu His Ser Ile  
 1025 1030 1035 1040  
 Leu Arg Ser Pro Met Ser Phe Phe Glu Arg Thr Pro Ser Gly Asn Leu  
 1045 1050 1055  
 Val Asn Arg Phe Ser Lys Glu Leu Asp Thr Val Asp Ser Met Ile Pro  
 1060 1065 1070  
 Glu Val Ile Lys Met Phe Met Gly Ser Leu Phe Asn Val Ile Gly Ala  
 1075 1080 1085  
 Cys Ile Val Ile Leu Leu Ala Thr Pro Ile Ala Ala Ile Ile Ile Pro  
 1090 1095 1100  
 Pro Leu Gly Leu Ile Tyr Phe Phe Val Gln Arg Phe Tyr Val Ala Ser  
 1105 1110 1115 1120  
 Ser Arg Gln Leu Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Val Tyr  
 1125 1130 1135

Ser His Phe Asn Glu Thr Leu Leu Gly Val Ser Val Ile Arg Ala Phe  
 1140 1145 1150  
  
 Glu Glu Gln Glu Arg Phe Ile His Gln Ser Asp Leu Lys Val Asp Glu  
 1155 1160 1165  
  
 Asn Gln Lys Ala Tyr Tyr Pro Ser Ile Val Ala Asn Arg Trp Leu Ala  
 1170 1175 1180  
  
 Val Arg Leu Glu Cys Val Gly Asn Cys Ile Val Leu Phe Ala Ala Leu  
 1185 1190 1195 1200  
  
 Phe Ala Val Ile Ser Arg His Ser Leu Ser Ala Gly Leu Val Gly Leu  
 1205 1210 1215  
  
 Ser Val Ser Tyr Ser Leu Gln Val Thr Thr Tyr Leu Asn Trp Leu Val  
 1220 1225 1230  
  
 Arg Met Ser Ser Glu Met Glu Thr Asn Ile Val Ala Val Glu Arg Leu  
 1235 1240 1245  
  
 Lys Glu Tyr Ser Glu Thr Glu Lys Glu Ala Pro Trp Gln Ile Gln Glu  
 1250 1255 1260  
  
 Thr Ala Pro Pro Ser Ser Trp Pro Gln Val Gly Arg Val Glu Phe Arg  
 1265 1270 1275 1280  
  
 Asn Tyr Cys Leu Arg Tyr Arg Glu Asp Leu Asp Phe Val Leu Arg His  
 1285 1290 1295  
  
 Ile Asn Val Thr Ile Asn Gly Gly Glu Lys Val Gly Ile Val Gly Arg  
 1300 1305 1310  
  
 Thr Gly Ala Gly Lys Ser Ser Leu Thr Leu Gly Leu Phe Arg Ile Asn  
 1315 1320 1325  
  
 Glu Ser Ala Glu Gly Glu Ile Ile Asp Gly Ile Asn Ile Ala Lys  
 1330 1335 1340  
  
 Ile Gly Leu His Asp Leu Arg Phe Lys Ile Thr Ile Ile Pro Gln Asp  
 1345 1350 1355 1360  
  
 Pro Val Leu Phe Ser Gly Ser Leu Arg Met Asn Leu Asp Pro Phe Ser  
 1365 1370 1375  
  
 Gln Tyr Ser Asp Glu Glu Val Trp Thr Ser Leu Glu Leu Ala His Leu  
 1380 1385 1390  
  
 Lys Asp Phe Val Ser Ala Leu Pro Asp Lys Leu Asp His Glu Cys Ala  
 1395 1400 1405  
  
 Glu Gly Gly Glu Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu  
 1410 1415 1420  
  
 Ala Arg Ala Leu Leu Arg Lys Thr Lys Ile Leu Val Leu Asp Glu Ala  
 1425 1430 1435 1440

Thr Ala Ala Val Asp Leu Glu Thr Asp Asp Leu Ile Gln Ser Thr Ile  
1445 1450 1455

Arg Thr Gln Phe Glu Asp Cys Thr Val Leu Thr Ile Ala His Arg Leu  
1460 1465 1470

Asn Thr Ile Met Asp Tyr Thr Arg Val Ile Val Leu Asp Lys Gly Glu  
1475 1480 1485

Ile Gln Glu Tyr Gly Ala Pro Ser Asp Leu Leu Gln Gln Arg Gly Leu  
1490 1495 1500

Phe Tyr Ser Met Ala Lys Asp Ala Gly Leu Val  
1505 1510 1515

<210> 88  
<211> 1528  
<212> PRT  
<213> Mus musculus

<400> 88  
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1 5 10 15

Asp Trp Asn Val Thr Trp His Thr Ser Asn Pro Asp Phe Thr Lys Cys  
20 25 30

Phe Gln Asn Thr Val Leu Thr Trp Val Pro Cys Phe Tyr Leu Trp Ser  
35 40 45

Cys Phe Pro Leu Tyr Phe Phe Tyr Leu Ser Arg His Asp Arg Gly Tyr  
50 55 60

Ile Gln Met Thr His Leu Asn Lys Thr Lys Thr Ala Leu Gly Phe Phe  
65 70 75 80

Leu Trp Ile Ile Cys Trp Ala Asp Leu Phe Tyr Ser Phe Trp Glu Arg  
85 90 95

Ser Gln Gly Val Leu Arg Ala Pro Val Leu Leu Val Ser Pro Thr Leu  
100 105 110

Leu Gly Ile Thr Met Leu Leu Ala Thr Phe Leu Ile Gln Leu Glu Arg  
115 120 125

Arg Lys Gly Val Gln Ser Ser Gly Ile Met Leu Thr Phe Trp Leu Val  
130 135 140

Ala Leu Leu Cys Ala Leu Ala Ile Leu Arg Ser Lys Ile Ile Ser Ala  
145 150 155 160

Leu Lys Lys Asp Ala His Val Asp Val Phe Arg Asp Ser Thr Phe Tyr  
165 170 175

Leu Tyr Phe Thr Leu Val Leu Val Gln Leu Val Leu Ser Cys Phe Ser

180	185	190	
Asp Cys Ser Pro Leu Phe Ser Glu Thr Val His Asp Arg Asn Pro Cys			
195	200	205	
Pro Glu Ser Ser Ala Ser Phe Leu Ser Arg Ile Thr Phe Trp Trp Ile			
210	215	220	
Thr Gly Met Met Val His Gly Tyr Arg Gln Pro Leu Glu Ser Ser Asp			
225	230	235	240
Leu Trp Ser Leu Asn Lys Glu Asp Thr Ser Glu Glu Val Val Pro Val			
245	250	255	
Leu Val Asn Asn Trp Lys Lys Glu Cys Asp Lys Ser Arg Lys Gln Pro			
260	265	270	
Val Arg Ile Val Tyr Ala Pro Pro Lys Asp Pro Ser Lys Pro Lys Gly			
275	280	285	
Ser Ser Gln Leu Asp Val Asn Glu Glu Val Glu Ala Leu Ile Val Lys			
290	295	300	
Ser Pro His Lys Asp Arg Glu Pro Ser Leu Phe Lys Val Leu Tyr Lys			
305	310	315	320
Thr Phe Gly Pro Tyr Phe Leu Met Ser Phe Leu Tyr Lys Ala Leu His			
325	330	335	
Asp Leu Met Met Phe Ala Gly Pro Lys Ile Leu Glu Leu Ile Ile Asn			
340	345	350	
Phe Val Asn Asp Arg Glu Ala Pro Asp Trp Gln Gly Tyr Phe Tyr Thr			
355	360	365	
Ala Leu Leu Phe Val Ser Ala Cys Leu Gln Thr Leu Ala Leu His Gln			
370	375	380	
Tyr Phe His Ile Cys Phe Val Ser Gly Met Arg Ile Lys Thr Ala Val			
385	390	395	400
Val Gly Ala Val Tyr Arg Lys Ala Leu Ile Thr Asn Ala Ala Arg			
405	410	415	
Lys Ser Ser Thr Val Gly Glu Ile Val Asn Leu Met Ser Val Asp Ala			
420	425	430	
Gln Arg Phe Met Asp Leu Ala Thr Tyr Ile Asn Met Ile Trp Ser Ala			
435	440	445	
Pro Leu Gln Val Ile Leu Ala Leu Tyr Phe Leu Trp Leu Ser Leu Gly			
450	455	460	
Pro Ser Val Leu Ala Gly Val Ala Val Met Ile Leu Met Val Pro Leu			
465	470	475	480
Asn Ala Val Met Ala Met Lys Thr Lys Thr Tyr Gln Val Ala His Met			

485	490	495
Lys Ser Lys Asp Asn Arg Ile Lys Leu Met Asn Glu Ile Leu Asn Gly		
500	505	510
Ile Lys Val Leu Lys Leu Tyr Ala Trp Glu Leu Ala Phe Gln Asp Lys		
515	520	525
Val Met Ser Ile Arg Gln Glu Glu Leu Lys Val Leu Lys Lys Ser Ala		
530	535	540
Tyr Leu Ala Ala Val Gly Thr Phe Thr Trp Val Cys Thr Pro Phe Leu		
545	550	555
Val Ala Leu Ser Thr Phe Ala Val Phe Val Thr Val Asp Glu Arg Asn		
565	570	575
Ile Leu Asp Ala Lys Lys Ala Phe Val Ser Leu Ala Leu Phe Asn Ile		
580	585	590
Leu Arg Phe Pro Leu Asn Ile Leu Pro Met Val Ile Ser Ser Ile Val		
595	600	605
Gln Ala Ser Val Ser Leu Lys Arg Leu Arg Ile Phe Leu Ser His Glu		
610	615	620
Glu Leu Glu Pro Asp Ser Ile Glu Arg Arg Ser Ile Lys Ser Gly Glu		
625	630	635
Gly Asn Ser Ile Thr Val Lys Asn Ala Thr Phe Thr Trp Ala Arg Gly		
645	650	655
Glu Pro Pro Thr Leu Asn Gly Ile Thr Phe Ser Ile Pro Glu Gly Ala		
660	665	670
Leu Val Ala Val Val Gly Gln Val Gly Cys Gly Lys Ser Ser Leu Leu		
675	680	685
Ser Ala Leu Leu Ala Glu Met Asp Lys Val Glu Gly His Val Thr Leu		
690	695	700
Lys Gly Ser Val Ala Tyr Val Pro Gln Gln Ala Trp Ile Gln Asn Asp		
705	710	715
Ser Leu Arg Glu Asn Ile Leu Phe Gly His Pro Leu Gln Glu Asn Tyr		
725	730	735
Tyr Lys Ala Val Met Glu Ala Cys Ala Leu Leu Pro Asp Leu Glu Ile		
740	745	750
Leu Pro Ser Gly Asp Arg Thr Glu Ile Gly Glu Lys Gly Val Asn Leu		
755	760	765
Ser Gly Gly Gln Lys Gln Arg Val Ser Leu Ala Arg Ala Val Tyr Ser		
770	775	780
Asn Ser Asp Ile Tyr Leu Phe Asp Asp Pro Leu Ser Ala Val Asp Ala		

785	790	795	800
His Val Gly Lys His Ile Phe Glu Lys Val Val Gly Pro Met Gly Leu			
805	810	815	
Leu Lys Asn Lys Thr Arg Ile Leu Val Thr His Gly Ile Ser Tyr Leu			
820	825	830	
Pro Gln Val Asp Val Ile Ile Val Met Ser Gly Gly Lys Ile Ser Glu			
835	840	845	
Met Gly Ser Tyr Gln Glu Leu Leu Asp Arg Asp Gly Ala Phe Ala Glu			
850	855	860	
Phe Leu Arg Thr Tyr Ala Asn Ala Glu Gln Asp Leu Ala Ser Glu Asp			
865	870	875	880
Asp Ser Val Ser Gly Ser Gly Lys Glu Ser Lys Pro Val Glu Asn Gly			
885	890	895	
Met Leu Val Thr Asp Thr Val Gly Lys His Leu Gln Arg His Leu Ser			
900	905	910	
Asn Ser Ser Ser His Ser Gly Asp Thr Ser Gln Gln His Ser Ser Ile			
915	920	925	
Ala Glu Leu Gln Lys Ala Gly Ala Lys Glu Glu Thr Trp Lys Leu Met			
930	935	940	
Glu Ala Asp Lys Ala Gln Thr Gly Gln Val Gln Leu Ser Val Tyr Trp			
945	950	955	960
Asn Tyr Met Lys Ala Ile Gly Leu Phe Ile Thr Phe Leu Ser Ile Phe			
965	970	975	
Leu Phe Leu Cys Asn His Val Ser Ala Leu Ala Ser Asn Tyr Trp Leu			
980	985	990	
Ser Leu Trp Thr Asp Asp Pro Pro Val Val Asn Gly Thr Gln Ala Asn			
995	1000	1005	
Arg Asn Phe Arg Leu Ser Val Tyr Gly Ala Leu Gly Ile Leu Gln Gly			
1010	1015	1020	
Ala Ala Ile Phe Gly Tyr Ser Met Ala Val Ser Ile Gly Gly Ile Phe			
1025	1030	1035	1040
Ala Ser Arg Arg Leu His Leu Asp Leu Leu Tyr Asn Val Leu Arg Ser			
1045	1050	1055	
Pro Met Ser Phe Phe Glu Arg Thr Pro Ser Gly Asn Leu Val Asn Arg			
1060	1065	1070	
Phe Ser Lys Glu Leu Asp Thr Val Asp Ser Met Ile Pro Gln Val Ile			
1075	1080	1085	
Lys Met Phe Met Gly Ser Leu Phe Ser Val Ile Gly Ala Val Ile Ile			

1090	1095	1100
Ile Leu Leu Ala Thr Pro Ile Ala Ala Val Ile Ile Pro Pro Leu Gly		
1105	1110	1115
Leu Val Tyr Phe Phe Val Gln Arg Phe Tyr Val Ala Ser Ser Arg Gln		
1125	1130	1135
Leu Lys Arg Leu Glu Ser Val Ser Arg Ser Pro Val Tyr Ser His Phe		
1140	1145	1150
Asn Glu Thr Leu Leu Gly Val Ser Val Ile Arg Ala Phe Glu Glu Gln		
1155	1160	1165
Glu Arg Phe Ile His Gln Ser Asp Leu Lys Val Asp Glu Asn Gln Lys		
1170	1175	1180
Ala Tyr Tyr Pro Ser Ile Val Ala Asn Arg Trp Leu Ala Val Arg Leu		
1185	1190	1195
1200		
Glu Cys Val Gly Asn Cys Ile Val Leu Phe Ala Ala Leu Phe Ala Val		
1205	1210	1215
Ile Ser Arg His Ser Leu Ser Ala Gly Leu Val Gly Leu Ser Val Ser		
1220	1225	1230
Tyr Ser Leu Gln Ile Thr Ala Tyr Leu Asn Trp Leu Val Arg Met Ser		
1235	1240	1245
Ser Glu Met Glu Thr Asn Ile Val Ala Val Glu Arg Leu Lys Glu Tyr		
1250	1255	1260
Ser Glu Thr Glu Lys Glu Ala Pro Trp Gln Ile Gln Glu Thr Ala Pro		
1265	1270	1275
1280		
Pro Ser Thr Trp Pro His Ser Gly Arg Val Glu Phe Arg Asp Tyr Cys		
1285	1290	1295
Leu Arg Tyr Arg Glu Asp Leu Asp Leu Val Leu Lys His Ile Asn Val		
1300	1305	1310
Thr Ile Glu Gly Glu Lys Val Gly Ile Val Gly Arg Thr Gly Ala		
1315	1320	1325
Gly Lys Ser Ser Leu Thr Leu Gly Leu Phe Arg Ile Asn Glu Ser Ala		
1330	1335	1340
Glu Gly Glu Ile Ile Asp Gly Val Asn Ile Ala Lys Ile Gly Leu		
1345	1350	1355
1360		
His Asn Leu Arg Phe Lys Ile Thr Ile Ile Pro Gln Asp Pro Val Leu		
1365	1370	1375
Phe Ser Gly Ser Leu Arg Met Asn Leu Asp Pro Phe Ser Gln Tyr Ser		
1380	1385	1390
Asp Glu Glu Val Trp Met Ala Leu Glu Leu Ala His Leu Lys Gly Phe		

1395	1400	1405
Val Ser Ala Leu Pro Asp Lys Leu Asn His Glu Cys Ala Glu Gly Gly		
1410	1415	1420
Glu Asn Leu Ser Val Gly Gln Arg Gln Leu Val Cys Leu Ala Arg Ala		
1425	1430	1435
Leu Leu Arg Lys Thr Lys Ile Leu Val Leu Asp Glu Ala Thr Ala Ala		
1445	1450	1455
Val Asp Leu Glu Thr Asp Asn Leu Ile Gln Ser Thr Ile Arg Thr Gln		
1460	1465	1470
Phe Glu Asp Cys Thr Val Leu Thr Ile Ala His Arg Leu Asn Thr Ile		
1475	1480	1485
Met Asp Tyr Thr Arg Val Ile Val Leu Asp Lys Gly Glu Val Arg Glu		
1490	1495	1500
Cys Gly Ala Pro Ser Glu Leu Leu Gln Gln Arg Gly Ile Phe Tyr Ser		
1505	1510	1515
Met Ala Lys Asp Ala Gly Leu Val		
1525		

<210> 89  
 <211> 1794  
 <212> DNA  
 <213> Homo sapiens

<400> 89  
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 cagaccagag actccagtca ccctcgccat ctgtggaatc atattctggc tgatcttgg 120  
 tttcaaaagt ccgggtggct ggggctgtat ggtcccaccc cctggggggg ttgaggaagt 180  
 tgctgtcgtc tgaggtactg ccgtacgtgt agtcctgaaa ccagctttc tctctccaaa 240  
 gaagcaccaa gggagcatct ggaccaccag gctgcacacc aacccttccc cagaccgcga 300  
 ttccgacaag agacggggca cccttcattt caaagagatt tccccagatc ctttctcctt 360  
 gatctaccaa actttccaga tctttccaaa gctgatatca atgggcagaa tccaaatatc 420  
 caggtcacca tagaggtggt cgacggtcct gactctgaag cagataaaaga tcagcatccg 480  
 gagaataagc ccagctggtc agtcccatcc cccgactggc gggcctggtg gcagagggtcc 540  
 ctgtccttgg ccagggcaaa cagcggggac caggactaca agtacgacag tacctcagac 600  
 gacagcaact tcctcaaccc cccccaggggg tgggaccata cagccccagg ccaccggact 660  
 tttgaaacca aagatcagcc agaatatgt tccacagatg gcgagggtga ctggagtctc 720  
 tggtctgtct gcagcgtcac ctgcgggaac ggcaaccaga aacggaccgg gtcttgtggc 780  
 tacgcgtgca ctgcaacaga atcgaggacc tggacgcgtc caaactgcgc agcttgcacc 840  
 ggattcctga ttgtaaagga agcttggta ggggtggtag tttggcatgt ccctgcacct 900  
 ccaactggca acccctctgt gcctttgcct gaggttttc tctggaccgg agcccaagctg 960  
 cgcacatgat cacagggcat tcctagctgg aaatccagga ccagtcctt gtcagtatg 1020  
 aatgggagct ggtggataaa aactcagatc cccatcaata aaaacaaaatc cggactcagt 1080  
 aaggagagga tttattcaaa ggattattgc agggaggcaa gggatgttat ctcccttatta 1140  
 ttgcaatggg atgaacgctg tgaccataag atctgcagaat atctcaagga acagcctgg 1200  
 gtcacatgct ctttgcgtca cccctgtgg gcccgttgcata caccgcgtga gaggtttct 1260  
 ctttgcctt ttccagacac agacagctgt gagcgcgtgg ttagctcaa agcggaggttc 1320  
 ttaaagaagt acatgcacaa ggtgtatgaaat gacctgcctt gctgccttgc ctccttacccc 1380  
 actgaggtgg ctttacacac ggcggacatc ttcgaccgc tcaagcgc ggcacttccgc 1440

tggaaggacg ccagcgggcc caaggagaag ctggagatct acaagccac tgcccggtac 1500  
tgcacccgct ccatgctgtc cctggagagc accacgctgg cggcacagca ctgctgctac 1560  
ggcgacaaca tgcagctcat caccaggggc aagggggcgg gcacgccccaa cctcatcagc 1620  
accgagttct ccgcggagct ccactacaag gtggacgtcc tgccctggat tatctgcaag 1680  
ggtgactgga gcaggtataa cgaggcccg cctcccaaca acggacagaa gtgcacagag 1740  
agccctcg acgaggacta catcaaggcag ttccaagagg ccagggataa ttaa 1794

<210> 90  
<211> 539  
<212> PRT  
<213> Homo sapiens

<400> 90  
Gly Ser Cys Cys Arg Leu Arg Tyr Cys Arg Thr Cys Ser Pro Glu Thr  
1 5 10 15  
  
Ser Phe Ser Leu Ser Lys Glu Ala Pro Arg Glu His Leu Asp His Gln  
20 25 30  
  
Ala Ala His Gln Pro Phe Pro Arg Pro Arg Phe Arg Gln Glu Thr Gly  
35 40 45  
  
His Pro Ser Leu Gln Arg Asp Phe Pro Arg Ser Phe Leu Leu Asp Leu  
50 55 60  
  
Pro Asn Phe Pro Asp Leu Ser Lys Ala Asp Ile Asn Gly Gln Asn Pro  
65 70 75 80  
  
Asn Ile Gln Val Thr Ile Glu Val Val Asp Gly Pro Asp Ser Glu Ala  
85 90 95  
  
Asp Lys Asp Gln His Pro Glu Asn Lys Pro Ser Trp Ser Val Pro Ser  
100 105 110  
  
Pro Asp Trp Arg Ala Trp Trp Gln Arg Ser Leu Ser Leu Ala Arg Ala  
115 120 125  
  
Asn Ser Gly Asp Gln Asp Tyr Lys Tyr Asp Ser Thr Ser Asp Asp Ser  
130 135 140  
  
Asn Phe Leu Asn Pro Pro Arg Gly Trp Asp His Thr Ala Pro Gly His  
145 150 155 160  
  
Arg Thr Phe Glu Thr Lys Asp Gln Pro Glu Tyr Asp Ser Thr Asp Gly  
165 170 175  
  
Glu Gly Asp Trp Ser Leu Trp Ser Val Cys Ser Val Thr Cys Gly Asn  
180 185 190  
  
Gly Asn Gln Lys Arg Thr Arg Ser Cys Gly Tyr Ala Cys Thr Ala Thr  
195 200 205  
  
Glu Ser Arg Thr Cys Asp Arg Pro Asn Cys Pro Ala Cys Thr Gly Phe  
210 215 220  
  
Leu Ile Val Lys Glu Ala Trp Leu Gly Val Val Val Trp His Val Pro

225	230	235	240
Ala Pro Pro Thr Gly Asn Pro Ser Val Pro Leu Pro Glu Val Phe Leu			
245	250	255	
Trp Thr Arg Ala Gln Leu Arg Met Asn Ala Gln Gly Ile Pro Ser Trp			
260	265	270	
Lys Ser Arg Thr Ser Pro Leu Ser Val Met Asn Gly Ser Trp Trp Ile			
275	280	285	
Lys Thr Gln Ile Pro Ile Asn Lys Asn Lys Ser Gly Leu Ser Lys Glu			
290	295	300	
Arg Ile Tyr Ser Lys Asp Tyr Cys Arg Glu Ala Arg Asp Val Ile Ser			
305	310	315	320
Leu Leu Leu Gln Trp Asp Glu Arg Cys Asp His Lys Ile Cys Lys His			
325	330	335	
Leu Lys Glu Gln Pro Gly Val Thr Cys Ser Leu Lys His Leu Leu Trp			
340	345	350	
Ala Gly Cys Thr Arg Gly Glu Arg Val Ser Leu Trp Pro Phe Pro Asp			
355	360	365	
Thr Asp Ser Cys Glu Arg Trp Met Ser Phe Lys Ala Arg Phe Leu Lys			
370	375	380	
Lys Tyr Met His Lys Val Met Asn Asp Leu Pro Ser Cys Pro Cys Ser			
385	390	395	400
Tyr Pro Thr Glu Val Ala Tyr Ser Thr Ala Asp Ile Phe Asp Arg Ile			
405	410	415	
Lys Arg Lys Asp Phe Arg Trp Lys Asp Ala Ser Gly Pro Lys Glu Lys			
420	425	430	
Leu Glu Ile Tyr Lys Pro Thr Ala Arg Tyr Cys Ile Arg Ser Met Leu			
435	440	445	
Ser Leu Glu Ser Thr Thr Leu Ala Ala Gln His Cys Cys Tyr Gly Asp			
450	455	460	
Asn Met Gln Leu Ile Thr Arg Gly Lys Gly Ala Gly Thr Pro Asn Leu			
465	470	475	480
Ile Ser Thr Glu Phe Ser Ala Glu Leu His Tyr Lys Val Asp Val Leu			
485	490	495	
Pro Trp Ile Ile Cys Lys Gly Asp Trp Ser Arg Tyr Asn Glu Ala Arg			
500	505	510	
Pro Pro Asn Asn Gly Gln Lys Cys Thr Glu Ser Pro Ser Asp Glu Asp			
515	520	525	
Tyr Ile Lys Gln Phe Gln Glu Ala Arg Glu Tyr			

<210> 91  
 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

<400> 91  
 gtacgtgttag tcctgaaacc agctttctc tctccaaaga agcaccaagg gagcatctgg 60  
 accaccaggc tgcacaccaa cccttccccca gaccgcatt ccgacaagag acggggcacc 120  
 cttcattgca aagagatttc cccagatct ttctccttga tctaccaaac tttccagatc 180  
 ttccaaagc tgatataat gggcagaatc caaatatcca ggtcaccata gaggtggtcg 240  
 acggtcctga ctctgaagca gataaagatc agcatccgga gaataagccc agctggtcg 300  
 tcccatcccc cgactggcgg gcctggtggc agaggtccct gtccttgcc agggcaaaca 360  
 gccccggacca ggactacaag tacgacagta cctcagacga cagcaacttc ctcaaccccc 420  
 ccagggggtg ggaccataca gccccaggcc accggacttt tgaaaccaa gatcagccag 480  
 aatatgattc cacagatggc gagggtgact ggagtcctg gtctgtctgc agcgtcacct 540  
 gcgggaacgg caaccagaaa cggaccgggt cttgtggcta cgcgtgcact gcaacagaat 600  
 cgaggacctg tgaccgtcca aactgcccag gaattgaaga cacttttagg acagctgcca 660  
 cccaagttag tctgcttgcg ggaagcgagg agttaatgc cacccaaactg tttgaagttg 720  
 acacagacag ctgtgagcgc tggatgagct gcaaaagcga gttcttaaag aagtacatgc 780  
 acaagggtat gaatgacctg cccagctgcc cctgctccta ccccacttag gtggcctaca 840  
 gcacggctga catcttcgac cgcataaagc gcaaggactt cgcgttggaa gacggcagcg 900  
 gccccaaagga gaagctggag atctacaagc ccactgcccgt gtaactgcata cgctccatgc 960  
 tggatgagct gggcaccacg ctggcggcac agcaactgctg ctacggcgcac aacatgcagc 1020  
 tcatcaccag gggcaagggg gcgggcacgc ccaacctcat cggcaccggag ttctccgcgg 1080  
 agctccacta caagggtggac gtcctgcct ggattatctg caagggtgac tggagcaggt 1140  
 ataacgagggc ccggccctccc aacaacggac aggagtgcac agagagcccc tcggacgagg 1200  
 actacatcaa gcagttccaa gaggccaggg aatattaa 1238

<210> 92  
 <211> 411  
 <212> PRT  
 <213> Homo sapiens

<400> 92  
 Thr Cys Ser Pro Glu Thr Ser Phe Ser Leu Ser Lys Glu Ala Pro Arg  
 1 5 10 15

Glu His Leu Asp His Gln Ala Ala His Gln Pro Phe Pro Arg Pro Arg  
 20 25 30

Phe Arg Gln Glu Thr Gly His Pro Ser Leu Gln Arg Asp Phe Pro Arg  
 35 40 45

Ser Phe Leu Leu Asp Leu Pro Asn Phe Pro Asp Leu Ser Lys Ala Asp  
 50 55 60

Ile Asn Gly Gln Asn Pro Asn Ile Gln Val Thr Ile Glu Val Val Asp  
 65 70 75 80

Gly Pro Asp Ser Glu Ala Asp Lys Asp Gln His Pro Glu Asn Lys Pro  
 85 90 95

Ser Trp Ser Val Pro Ser Pro Asp Trp Arg Ala Trp Trp Gln Arg Ser

100	105	110
Leu Ser Leu Ala Arg Ala Asn Ser Gly Asp Gln Asp Tyr Lys Tyr Asp		
115	120	125
Ser Thr Ser Asp Asp Ser Asn Phe Leu Asn Pro Pro Arg Gly Trp Asp		
130	135	140
His Thr Ala Pro Gly His Arg Thr Phe Glu Thr Lys Asp Gln Pro Glu		
145	150	155
Tyr Asp Ser Thr Asp Gly Glu Gly Asp Trp Ser Leu Trp Ser Val Cys		
165	170	175
Ser Val Thr Cys Gly Asn Gly Asn Gln Lys Arg Thr Arg Ser Cys Gly		
180	185	190
Tyr Ala Cys Thr Ala Thr Glu Ser Arg Thr Cys Asp Arg Pro Asn Cys		
195	200	205
Pro Gly Ile Glu Asp Thr Phe Arg Thr Ala Ala Thr Glu Val Ser Leu		
210	215	220
Leu Ala Gly Ser Glu Glu Phe Asn Ala Thr Lys Leu Phe Glu Val Asp		
225	230	235
240		
Thr Asp Ser Cys Glu Arg Trp Met Ser Cys Lys Ser Glu Phe Leu Lys		
245	250	255
Lys Tyr Met His Lys Val Met Asn Asp Leu Pro Ser Cys Pro Cys Ser		
260	265	270
Tyr Pro Thr Glu Val Ala Tyr Ser Thr Ala Asp Ile Phe Asp Arg Ile		
275	280	285
Lys Arg Lys Asp Phe Arg Trp Lys Asp Ala Ser Gly Pro Lys Glu Lys		
290	295	300
Leu Glu Ile Tyr Lys Pro Thr Ala Arg Tyr Cys Ile Arg Ser Met Leu		
305	310	315
320		
Ser Leu Glu Ser Thr Thr Leu Ala Ala Gln His Cys Cys Tyr Gly Asp		
325	330	335
Asn Met Gln Leu Ile Thr Arg Gly Lys Gly Ala Gly Thr Pro Asn Leu		
340	345	350
Ile Gly Thr Glu Phe Ser Ala Glu Leu His Tyr Lys Val Asp Val Leu		
355	360	365
Pro Trp Ile Ile Cys Lys Gly Asp Trp Ser Arg Tyr Asn Glu Ala Arg		
370	375	380
Pro Pro Asn Asn Gly Gln Glu Cys Thr Glu Ser Pro Ser Asp Glu Asp		
385	390	395
400		
Tyr Ile Lys Gln Phe Gln Glu Ala Arg Glu Tyr		

405

410

<210> 93  
 <211> 391  
 <212> PRT  
 <213> Homo sapiens

<400> 93  
 His Gln Ala Ala His Gln Pro Phe Pro Arg Pro Arg Phe Arg Gln Glu  
 1 5 10 15  
 Thr Gly His Pro Ser Leu Gln Arg Asp Phe Pro Arg Ser Phe Leu Leu  
 20 25 30  
 Asp Leu Pro Asn Phe Pro Asp Leu Ser Lys Ala Asp Ile Asn Gly Gln  
 35 40 45  
 Asn Pro Asn Ile Gln Val Thr Ile Glu Val Val Asp Gly Pro Asp Ser  
 50 55 60  
 Glu Ala Asp Lys Asp Gln His Pro Glu Asn Lys Pro Ser Trp Ser Val  
 65 70 75 80  
 Pro Ser Pro Asp Trp Arg Ala Trp Trp Gln Arg Ser Leu Ser Leu Ala  
 85 90 95  
 Arg Ala Asn Ser Gly Asp Gln Asp Tyr Lys Tyr Asp Ser Thr Ser Asp  
 100 105 110  
 Asp Ser Asn Phe Leu Asn Pro Pro Arg Gly Trp Asp His Thr Ala Pro  
 115 120 125  
 Gly His Arg Thr Phe Glu Thr Lys Asp Gln Pro Glu Tyr Asp Ser Thr  
 130 135 140  
 Asp Gly Glu Gly Asp Trp Ser Leu Trp Ser Val Cys Ser Val Thr Cys  
 145 150 155 160  
 Gly Asn Gly Asn Gln Lys Arg Thr Arg Ser Cys Gly Tyr Ala Cys Thr  
 165 170 175  
 Ala Thr Glu Ser Arg Thr Cys Asp Arg Pro Asn Cys Pro Gly Ile Glu  
 180 185 190  
 Asp Thr Phe Arg Thr Ala Ala Thr Glu Val Ser Leu Leu Ala Gly Ser  
 195 200 205  
 Glu Glu Phe Asn Ala Thr Lys Leu Phe Glu Val Asp Thr Asp Ser Cys  
 210 215 220  
 Glu Arg Trp Met Ser Cys Lys Ser Glu Phe Leu Lys Lys Tyr Met His  
 225 230 235 240  
 Lys Val Met Asn Asp Leu Pro Ser Cys Pro Cys Ser Tyr Pro Thr Glu  
 245 250 255

Val	Ala	Tyr	Ser	Thr	Ala	Asp	Ile	Phe	Asp	Arg	Ile	Lys	Arg	Lys	Asp
260					265						270				
Phe	Arg	Trp	Lys	Asp	Ala	Ser	Gly	Pro	Lys	Glu	Lys	Leu	Glu	Ile	Tyr
275					280						285				
Lys	Pro	Thr	Ala	Arg	Tyr	Cys	Ile	Arg	Ser	Met	Leu	Ser	Leu	Glu	Ser
290					295					300					
Thr	Thr	Leu	Ala	Ala	Gln	His	Cys	Cys	Tyr	Gly	Asp	Asn	Met	Gln	Leu
305					310				315			320			
Ile	Thr	Arg	Gly	Lys	Gly	Ala	Gly	Thr	Pro	Asn	Leu	Ile	Ser	Thr	Glu
325					330						335				
Phe	Ser	Ala	Glu	Leu	His	Tyr	Lys	Val	Asp	Val	Leu	Pro	Trp	Ile	Ile
340					345						350				
Cys	Lys	Gly	Asp	Trp	Ser	Arg	Tyr	Asn	Glu	Ala	Arg	Pro	Pro	Asn	Asn
355					360				365						
Gly	Gln	Lys	Cys	Thr	Glu	Ser	Pro	Ser	Asp	Glu	Asp	Tyr	Ile	Lys	Gln
370					375					380					
Phe	Gln	Glu	Ala	Arg	Glu	Tyr									
385					390										

<210> 94  
 <211> 658  
 <212> PRT  
 <213> Homo sapiens

<400> 94															
Met	Arg	Ala	Leu	Arg	Asp	Arg	Ala	Gly	Leu	Leu	Leu	Cys	Val	Leu	Leu
1					5				10				15		
Leu	Ala	Ala	Leu	Glu	Ala	Ala	Leu	Gly	Leu	Pro	Val	Lys	Lys	Pro	
					20			25			30				
Arg	Leu	Arg	Gly	Pro	Arg	Pro	Gly	Ser	Leu	Thr	Arg	Leu	Ala	Glu	Val
					35			40			45				
Ser	Gly	Gly	Gly	Thr	Gly	Leu	Arg	Ser	Ala	Leu	Ser	Val	Pro	Pro	Pro
					50			55			60				
Gln	Pro	Ala	Gly	Ser	Ser	Arg	Ala	Gly	Ser	Gly	Thr	Gly	Thr	His	Thr
					65			70			75			80	
Gly	Ser	Asp	Pro	Pro	Met	Glu	Arg	Gly	Ala	Gly	Ala	Gly	Arg	Lys	Leu
					85			90			95				
Pro	Asp	Thr	Gly	Arg	Cys	Pro	Val	Thr	Glu	Gly	Ser	Thr	Val	Gln	Leu
					100			105			110				
Ile	Ala	Pro	Trp	Asn	Ala	Ala	Asp	Val	His	Ser	His	Gly	Asp	Lys	Asp
					115			120			125				

Ser Gln Thr Cys Ile Arg Val Ser Ala Ser Pro Asp Pro Arg Pro Leu  
 130 135 140

Lys Glu Glu Glu Glu Ala Pro Leu Leu Pro Arg Thr His Leu Gln Ala  
 145 150 155 160

Glu Pro His Gln His Gly Cys Trp Thr Val Thr Glu Pro Ala Ala Met  
 165 170 175

Thr Pro Gly Asn Ala Thr Pro Pro Arg Thr Pro Glu Val Thr Pro Leu  
 180 185 190

Arg Leu Glu Leu Gln Lys Leu Pro Gly Leu Ala Asn Thr Thr Leu Ser  
 195 200 205

Thr Pro Asn Pro Asp Thr Gln Ala Ser Ala Ser Pro Asp Pro Arg Pro  
 210 215 220

Leu Arg Glu Glu Glu Glu Ala Arg Leu Leu Pro Arg Thr His Leu Gln  
 225 230 235 240

Ala Glu Leu His Gln His Gly Cys Trp Thr Val Thr Glu Pro Ala Ala  
 245 250 255

Leu Thr Pro Gly Asn Ala Thr Pro Pro Arg Thr Gln Glu Val Thr Pro  
 260 265 270

Leu Leu Leu Glu Leu Gln Lys Leu Pro Glu Leu Val His Ala Thr Leu  
 275 280 285

Ser Thr Pro Asn Pro Asp Asn Gln Val Thr Ile Lys Val Val Glu Asp  
 290 295 300

Pro Gln Ala Glu Val Ser Ile Asp Leu Leu Ala Glu Pro Ser Asn Pro  
 305 310 315 320

Pro Pro Gln Asp Thr Leu Ser Trp Leu Pro Ala Leu Trp Ser Phe Leu  
 325 330 335

Trp Gly Asp Tyr Lys Gly Glu Glu Lys Asp Arg Ala Pro Gly Glu Lys  
 340 345 350

Gly Glu Glu Lys Glu Glu Asp Glu Asp Tyr Pro Ser Glu Asp Ile Glu  
 355 360 365

Gly Glu Asp Gln Glu Asp Lys Glu Glu Asp Glu Glu Glu Gln Ala Leu  
 370 375 380

Trp Phe Asn Gly Thr Thr Asp Asn Trp Asp Gln Gly Trp Leu Ala Pro  
 385 390 395 400

Gly Asp Trp Val Phe Lys Asp Ser Val Ser Tyr Asp Tyr Glu Pro Gln  
 405 410 415

Lys Glu Trp Ser Pro Trp Ser Pro Cys Ser Gly Asn Cys Ser Thr Gly  
 420 425 430

Lys Gln Gln Arg Thr Arg Pro Cys Gly Tyr Gly Cys Thr Ala Thr Glu  
 435 440 445  
 Thr Arg Thr Cys Asp Leu Pro Ser Cys Pro Gly Thr Glu Asp Lys Asp  
 450 455 460  
 Thr Leu Gly Leu Pro Ser Glu Glu Trp Lys Leu Leu Ala Arg Asn Ala  
 465 470 475 480  
 Thr Asp Met His Asp Gln Asp Val Asp Ser Cys Glu Lys Trp Leu Asn  
 485 490 495  
 Cys Lys Ser Asp Phe Leu Ile Lys Tyr Leu Ser Gln Met Leu Arg Asp  
 500 505 510  
 Leu Pro Ser Cys Pro Cys Ala Tyr Pro Leu Glu Ala Met Asp Ser Pro  
 515 520 525  
 Val Ser Leu Gln Asp Glu His Gln Gly Arg Ser Phe Arg Trp Arg Asp  
 530 535 540  
 Ala Ser Gly Pro Arg Glu Arg Leu Asp Ile Tyr Gln Pro Thr Ala Arg  
 545 550 555 560  
 Phe Cys Leu Arg Ser Met Leu Ser Gly Glu Ser Ser Thr Leu Ala Ala  
 565 570 575  
 Gln His Cys Cys Tyr Asp Glu Asp Ser Arg Leu Leu Thr Arg Gly Lys  
 580 585 590  
 Gly Ala Gly Met Pro Asn Leu Ile Ser Thr Asp Phe Ser Pro Lys Leu  
 595 600 605  
 His Phe Lys Phe Asp Thr Thr Pro Trp Ile Leu Cys Lys Gly Asp Trp  
 610 615 620  
 Ser Arg Leu His Ala Val Leu Pro Pro Asn Asn Gly Arg Ala Cys Thr  
 625 630 635 640  
 Asp Asn Pro Leu Glu Glu Tyr Leu Ala Gln Leu Gln Glu Ala Lys  
 645 650 655  
 Glu Tyr

<210> 95  
 <211> 60  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Asn Asn Leu Asn Val Gly Ser Asp Thr Thr Ser Glu Thr Ser Phe Ser  
 1 5 10 15

Leu Ser Lys Glu Ala Pro Arg Glu His Leu Asp His Gln Ala Ala His

20	25	30
Gln Pro Phe Pro Arg Pro Arg Phe Arg Gln Glu Thr Gly His Pro Ser		
35	40	45
Leu Gln Arg Asp Phe Pro Arg Ser Phe Leu Leu Asp		
50	55	60
<210> 96		
<211> 660		
<212> PRT		
<213> Cryptosporidium wrairi		
<400> 96		
Lys Leu Thr His Tyr Ser Val Gly Gly His Ala Ser Thr Ser Arg Val		
1	5	10
15		
Lys Gly Arg Ser Ser Ser Gly Ser Ser Ser Gly Asp Phe Lys Val Pro		
20	25	30
Gly Leu Asn Gly Tyr Leu Cys Pro Ser Tyr Asn Arg Asp Pro Arg Gly		
35	40	45
Phe Gly Cys Phe Gly Leu Asn Thr Ala Tyr Thr Val Lys Lys Asn Ser		
50	55	60
Trp Gln Glu Cys Ala Asn Gln Cys Tyr Trp Ser Lys Tyr Thr Ile Tyr		
65	70	75
80		
Gly Asn Cys Gln Arg Ser Val Tyr Asn Ser Asn Asn Gln Asp Cys His		
85	90	95
Ile Lys Gly Gly Asp Asn Asp Cys Met Lys Ser Pro Asp Gly Met Ile		
100	105	110
Leu Thr Asn Arg Gln Ser Tyr Met Ile Gly Glu Cys Ala Thr Thr Cys		
115	120	125
Thr Val Ser Ser Trp Ser Ser Trp Thr Pro Cys Ser Gly Val Cys Gly		
130	135	140
Glu Met Arg Ser Arg Thr Arg Ser Val Leu Ser Phe Pro Arg Tyr Asp		
145	150	155
160		
His Glu Tyr Cys Pro His Leu Ile Glu Tyr Ser Asn Cys Val Val Gln		
165	170	175
Asn Lys Cys Pro Glu Asn Cys Pro Gln Tyr Gly Val Ser Ile Leu Gly		
180	185	190
Trp Gly Cys Gln Phe Glu Ser Met Phe Ser Phe Asn Lys Asn Leu Phe		
195	200	205
Val Ser Tyr Glu Glu Asp Trp Lys Gly Cys Met Ser Thr Cys Lys Gln		
210	215	220

Asp Pro Phe Cys Val Ala Trp Ser Tyr Asn Ala Thr Leu Ser Glu Gly  
 225 230 235 240  
 Pro Asp Ser Val Gly Phe Ser Arg Glu Tyr Arg Pro Cys Tyr Thr His  
 245 250 255  
 Arg Phe Ala Ser Gly Cys Gln Ala Leu Ala Pro Gly Trp Val Ser Gly  
 260 265 270  
 Asn Lys Tyr Thr Arg Asp Val Asp Cys Glu Thr Gly Thr Cys Ile His  
 275 280 285  
 Asn Glu Trp Ser Ser Trp Thr Thr Cys Lys Asp Pro Cys Ser Asn Thr  
 290 295 300  
 Glu Thr Met Ser Arg Asn Arg Thr Val Lys Ser Val Ser Gln Asn Trp  
 305 310 315 320  
 Ala Ser Thr Thr Cys Arg Asp Glu Ser Gln Ile Gln Leu Cys Ser Glu  
 325 330 335  
 Asn Pro Gln Ser Ile Glu Thr Cys Lys Thr Cys Leu Val Gly Ser Trp  
 340 345 350  
 Ser Glu Trp Ser Asp Cys Ser Thr Ser Cys Gly Glu Gly Asn Arg Ile  
 355 360 365  
 Arg Thr Arg Glu Ser Thr Lys Pro Pro Leu Asn Gly Asp Glu Ser Thr  
 370 375 380  
 Cys Pro Glu Leu Ile Ala Lys Glu Ser Cys Asn Lys Asp Val Glu Cys  
 385 390 395 400  
 Pro Asn Ile Gln Cys Glu Leu Gly Glu Trp Ser Ser Trp Ser Pro Cys  
 405 410 415  
 Ser Val Thr Cys Gly Ser Gly Thr Thr Ser Arg Asn Arg Glu Val Lys  
 420 425 430  
 Gly Glu Asn Cys Thr Glu Leu Pro Thr Glu Ser Lys Lys Cys Asn Leu  
 435 440 445  
 Ala Asn Cys Gly Asp Asn Ser Ala Ser Cys Thr Ala Val Met Ser Val  
 450 455 460  
 Trp Ser Glu Trp Ser Ala Cys Ser Glu Lys Cys Asp Gln Gly Leu Val  
 465 470 475 480  
 Arg Arg Tyr Arg Asp Phe Asp Phe Ser Lys Ile Gly Val Phe Gly Tyr  
 485 490 495  
 Val Pro Pro Gly Lys Ser Glu Glu Gln Asn Lys Val Arg Glu Ile Cys  
 500 505 510  
 Lys Asp Thr Pro Thr Leu Glu Glu Pro Cys Thr Ser Gly Val Thr  
 515 520 525

Cys	Thr	Pro	Gly	Cys	Lys	Tyr	Thr	Glu	Trp	Ser	Ala	Trp	Ser	Ser	Cys
530															540
Asp	Cys	Ser	Gly	Ser	Gln	Thr	Arg	Asp	Arg	Val	Val	Thr	Phe	Pro	Glu
545															560
Gly	Ile	Ile	Asp	Ala	Ile	Cys	Gln	Ser	Ser	Lys	Asp	Thr	Arg	Ser	Cys
															575
565															570
Ser	Lys	Pro	Glu	Gly	Cys	Thr	Glu	Thr	Thr	Pro	Asp	Ser	Gly	Asp	Ala
															590
															580
585															
Thr	Leu	Ala	Ile	Ala	Ile	Gly	Leu	Pro	Val	Gly	Ile	Leu	Gly	Leu	Cys
															595
															600
Ile	Ile	Ala	Gly	Ser	Leu	Phe	Leu	Ile	Gly	Gly	Arg	Ser	Gly	Asn	Gln
															610
															615
620															
Glu	Glu	Asp	Glu	Thr	Ser	Tyr	Gln	Tyr	Phe	Asp	Gln	Pro	Ser	Ala	Ala
															625
															630
															635
640															
Leu	Asp	Gln	Asp	Ser	Glu	Tyr	Val	Gln	Glu	Ile	Gly	Pro	Glu	Ser	Gln
															645
															650
															655
Asn	Trp	Ala	Ser												
															660

<210> 97  
 <211> 831  
 <212> PRT  
 <213> Homo sapiens

<400> 97															
Met	Gly	Leu	Ala	Trp	Gly	Leu	Gly	Val	Leu	Phe	Leu	Met	His	Val	Cys
1															15
Gly	Thr	Asn	Arg	Ile	Pro	Glu	Ser	Gly	Gly	Asp	Asn	Ser	Val	Phe	Asp
															20
															25
															30
Ile	Phe	Glu	Leu	Thr	Gly	Ala	Ala	Arg	Lys	Gly	Ser	Gly	Arg	Arg	Leu
															35
															40
															45
Val	Lys	Gly	Pro	Asp	Pro	Ser	Ser	Pro	Ala	Phe	Arg	Ile	Glu	Asp	Ala
															50
															55
															60
Asn	Leu	Ile	Pro	Pro	Val	Pro	Asp	Asp	Lys	Phe	Gln	Asp	Leu	Val	Asp
															65
															70
															75
															80
Ala	Val	Arg	Thr	Glu	Lys	Gly	Phe	Leu	Leu	Leu	Ala	Ser	Leu	Arg	Gln
															85
															90
															95
Met	Lys	Lys	Thr	Arg	Gly	Thr	Leu	Leu	Ala	Leu	Glu	Arg	Lys	Asp	His
															100
															105
															110
Ser	Gly	Gln	Val	Phe	Ser	Val	Val	Ser	Asn	Gly	Lys	Ala	Gly	Thr	Leu
															115
															120
															125

Asp Leu Ser Leu Thr Val Gln Gly Lys Gln His Val Val Ser Val Glu  
 130 135 140

Glu Ala Leu Leu Ala Thr Gly Gln Trp Lys Ser Ile Thr Leu Phe Val  
 145 150 155 160

Gln Glu Asp Arg Ala Gln Leu Tyr Ile Asp Cys Glu Lys Met Glu Asn  
 165 170 175

Ala Glu Leu Asp Val Pro Ile Gln Ser Val Phe Thr Arg Asp Leu Ala  
 180 185 190

Ser Ile Ala Arg Leu Arg Ile Ala Lys Gly Gly Val Asn Asp Asn Phe  
 195 200 205

Gln Gly Val Leu Gln Asn Val Arg Phe Val Phe Gly Thr Thr Pro Glu  
 210 215 220

Asp Ile Leu Arg Asn Lys Gly Cys Ser Ser Ser Thr Ser Val Leu Leu  
 225 230 235 240

Thr Leu Asp Asn Asn Val Val Asn Gly Ser Ser Pro Ala Ile Arg Thr  
 245 250 255

Asn Tyr Ile Gly His Lys Thr Lys Asp Leu Gln Ala Ile Cys Gly Ile  
 260 265 270

Ser Cys Asp Glu Leu Ser Ser Met Val Leu Glu Leu Arg Gly Leu Arg  
 275 280 285

Thr Ile Val Thr Thr Leu Gln Asp Ser Ile Arg Lys Val Thr Glu Glu  
 290 295 300

Asn Lys Glu Leu Ala Asn Glu Leu Arg Arg Pro Pro Leu Cys Tyr His  
 305 310 315 320

Asn Gly Val Gln Tyr Arg Asn Asn Glu Glu Trp Thr Val Asp Ser Cys  
 325 330 335

Thr Glu Cys His Cys Gln Asn Ser Val Thr Ile Cys Lys Lys Val Ser  
 340 345 350

Cys Pro Ile Met Pro Cys Ser Asn Ala Thr Val Pro Asp Gly Glu Cys  
 355 360 365

Cys Pro Arg Cys Trp Pro Ser Asp Ser Ala Asp Asp Gly Trp Ser Pro  
 370 375 380

Trp Ser Glu Trp Thr Ser Cys Ser Thr Ser Cys Gly Asn Gly Ile Gln  
 385 390 395 400

Gln Arg Gly Arg Ser Cys Asp Ser Leu Asn Asn Arg Cys Glu Gly Ser  
 405 410 415

Ser Val Gln Thr Arg Thr Cys His Ile Gln Glu Cys Asp Lys Arg Phe  
 420 425 430

Lys Gln Asp Gly Gly Trp Ser His Trp Ser Pro Trp Ser Ser Cys Ser  
 435 440 445  
 Val Thr Cys Gly Asp Gly Val Ile Thr Arg Ile Arg Leu Cys Asn Ser  
 450 455 460  
 Pro Ser Pro Gln Met Asn Gly Lys Pro Cys Glu Gly Glu Ala Arg Glu  
 465 470 475 480  
 Thr Lys Ala Cys Lys Lys Asp Ala Cys Pro Ile Asn Gly Gly Trp Gly  
 485 490 495  
 Pro Trp Ser Pro Trp Asp Ile Cys Ser Val Thr Cys Gly Gly Val  
 500 505 510  
 Gln Lys Arg Ser Arg Leu Cys Asn Asn Pro Thr Pro Gln Phe Gly Gly  
 515 520 525  
 Lys Asp Cys Val Gly Asp Val Thr Glu Asn Gln Ile Cys Asn Lys Gln  
 530 535 540  
 Asp Cys Pro Ile Asp Gly Cys Leu Ser Asn Pro Cys Phe Ala Gly Val  
 545 550 555 560  
 Lys Cys Thr Ser Tyr Pro Asp Gly Ser Trp Lys Cys Gly Ala Cys Pro  
 565 570 575  
 Pro Gly Tyr Ser Gly Asn Gly Ile Gln Cys Thr Asp Val Asp Glu Cys  
 580 585 590  
 Lys Glu Val Pro Asp Ala Cys Phe Asn His Asn Gly Glu His Arg Cys  
 595 600 605  
 Glu Asn Thr Asp Pro Gly Tyr Asn Cys Leu Pro Cys Pro Pro Arg Phe  
 610 615 620  
 Thr Gly Ser Gln Pro Phe Gly Gln Gly Val Glu His Ala Thr Ala Asn  
 625 630 635 640  
 Lys Gln Val Cys Lys Pro Arg Asn Pro Cys Thr Asp Gly Thr His Asp  
 645 650 655  
 Cys Asn Lys Asn Ala Lys Cys Asn Tyr Leu Gly His Tyr Ser Asp Pro  
 660 665 670  
 Met Tyr Arg Cys Glu Cys Lys Pro Gly Tyr Ala Gly Asn Gly Ile Ile  
 675 680 685  
 Cys Gly Glu Asp Thr Asp Leu Asp Gly Trp Pro Asn Glu Asn Leu Val  
 690 695 700  
 Cys Val Ala Asn Ala Thr Tyr His Cys Lys Lys Asp Asn Cys Pro Asn  
 705 710 715 720  
 Leu Pro Asn Ser Gly Gln Glu Asp Tyr Asp Lys Asp Gly Ile Gly Asp  
 725 730 735

Ala	Cys	Asp	Asp	Asp	Asp	Asp	Asn	Asp	Lys	Ile	Pro	Asp	Asp	Arg	Asp
740							745							750	
Asn	Cys	Pro	Phe	His	Tyr	Asn	Pro	Ala	Gln	Tyr	Asp	Tyr	Asp	Arg	Asp
755						760					765				
Asp	Val	Gly	Asp	Arg	Cys	Asp	Asn	Cys	Pro	Tyr	Asn	His	Asn	Pro	Asp
770						775					780				
Gln	Ala	Asp	Thr	Asp	Asn	Asn	Gly	Glu	Gly	Asp	Ala	Cys	Ala	Ala	Asp
785						790				795				800	
Ile	Asp	Gly	Asp	Gly	Ile	Leu	Asn	Glu	Arg	Asp	Asn	Cys	Gln	Tyr	Val
					805				810				815		
Tyr	Asn	Val	Asp	Gln	Arg	Asp	Thr	Asp	Met	Asp	Gly	Val	Gly	Asp	
						820			825			830			

<210> 98  
 <211> 831  
 <212> PRT  
 <213> Mus musculus

<400> 98																
Met	Glu	Leu	Leu	Arg	Gly	Leu	Gly	Val	Leu	Phe	Leu	Leu	His	Met	Cys	
1				5					10				15			
Gly	Ser	Asn	Arg	Ile	Pro	Glu	Ser	Gly	Gly	Asp	Asn	Gly	Val	Phe	Asp	
				20				25				30				
Ile	Phe	Glu	Leu	Ile	Gly	Ala	Arg	Arg	Gly	Pro	Gly	Arg	Arg	Leu		
				35			40				45					
Val	Lys	Gly	Gln	Asp	Leu	Ser	Ser	Pro	Ala	Phe	Arg	Ile	Glu	Asn	Ala	
				50			55				60					
Asn	Leu	Ile	Pro	Ala	Val	Pro	Asp	Asp	Lys	Phe	Gln	Asp	Leu	Leu	Asp	
				65			70			75			80			
Ala	Val	Trp	Ala	Asp	Lys	Gly	Phe	Ile	Phe	Leu	Ala	Ser	Leu	Arg	Gln	
					85			90				95				
Met	Lys	Lys	Thr	Arg	Gly	Thr	Leu	Leu	Ala	Val	Glu	Arg	Lys	Asp	Asn	
					100			105			110					
Thr	Gly	Gln	Ile	Phe	Ser	Val	Val	Ser	Asn	Gly	Lys	Ala	Gly	Thr	Leu	
				115			120				125					
Asp	Leu	Ser	Leu	Ser	Leu	Pro	Gly	Lys	Gln	Gln	Val	Val	Ser	Val	Glu	
				130			135				140					
Glu	Ala	Leu	Leu	Ala	Thr	Gly	Gln	Trp	Lys	Ser	Ile	Thr	Leu	Phe	Val	
				145			150			155			160			
Gln	Glu	Asp	Arg	Ala	Gln	Leu	Tyr	Ile	Asp	Cys	Asp	Lys	Met	Glu	Ser	

165	170	175
Ala Glu Leu Asp Val Pro Ile Gln Ser Ile Phe Thr Arg Asp Leu Ala		
180	185	190
Ser Val Ala Arg Leu Arg Val Ala Lys Gly Asp Val Asn Asp Asn Phe		
195	200	205
Gln Gly Val Leu Gln Asn Val Arg Phe Val Phe Gly Thr Thr Pro Glu		
210	215	220
Asp Ile Leu Arg Asn Lys Gly Cys Ser Ser Thr Asn Val Leu Leu		
225	230	235
Thr Leu Asp Asn Asn Val Val Asn Gly Ser Ser Pro Ala Ile Arg Thr		
245	250	255
Asn Tyr Ile Gly His Lys Thr Lys Asp Leu Gln Ala Ile Cys Gly Leu		
260	265	270
Ser Cys Asp Glu Leu Ser Ser Met Val Leu Glu Leu Lys Gly Leu Arg		
275	280	285
Thr Ile Val Thr Thr Leu Gln Asp Ser Ile Arg Lys Val Thr Glu Glu		
290	295	300
Asn Arg Glu Leu Val Ser Glu Leu Lys Arg Pro Pro Leu Cys Phe His		
305	310	315
320		
Asn Gly Val Gln Tyr Lys Asn Asn Glu Glu Trp Thr Val Asp Ser Cys		
325	330	335
Thr Glu Cys His Cys Gln Asn Ser Val Thr Ile Cys Lys Lys Val Ser		
340	345	350
Cys Pro Ile Met Pro Cys Ser Asn Ala Thr Val Pro Asp Gly Glu Cys		
355	360	365
Cys Pro Arg Cys Trp Pro Ser Asp Ser Ala Asp Asp Gly Trp Ser Pro		
370	375	380
Trp Ser Glu Trp Thr Ser Cys Ser Ala Thr Cys Gly Asn Gly Ile Gln		
385	390	395
400		
Gln Arg Gly Arg Ser Cys Asp Ser Leu Asn Asn Arg Cys Glu Gly Ser		
405	410	415
Ser Val Gln Thr Arg Thr Cys His Ile Gln Glu Cys Asp Lys Arg Phe		
420	425	430
Lys Gln Asp Gly Gly Trp Ser His Trp Ser Pro Trp Ser Ser Cys Ser		
435	440	445
Val Thr Cys Gly Asp Gly Val Ile Thr Arg Ile Arg Leu Cys Asn Ser		
450	455	460
Pro Ser Pro Gln Met Asn Gly Lys Pro Cys Glu Gly Glu Ala Arg Glu		

465	470	475	480
Thr Lys Ala Cys Lys Lys Asp Ala Cys Pro Ile Asn Gly Gly Trp Gly			
485	490	495	
Pro Trp Ser Pro Trp Asp Ile Cys Ser Val Thr Cys Gly Gly Gly Val			
500	505	510	
Gln Arg Arg Ser Arg Leu Cys Asn Asn Pro Thr Pro Gln Phe Gly Gly			
515	520	525	
Lys Asp Cys Val Gly Asp Val Thr Glu Asn Gln Val Cys Asn Lys Gln			
530	535	540	
Asp Cys Pro Ile Asp Gly Cys Leu Ser Asn Pro Cys Phe Ala Gly Ala			
545	550	555	560
Lys Cys Thr Ser Tyr Pro Asp Gly Ser Trp Lys Cys Gly Ala Cys Pro			
565	570	575	
Pro Gly Tyr Ser Gly Asn Gly Ile Gln Cys Lys Asp Val Asp Glu Cys			
580	585	590	
Lys Glu Val Pro Asp Ala Cys Phe Asn His Asn Gly Glu His Arg Cys			
595	600	605	
Lys Asn Thr Asp Pro Gly Tyr Asn Cys Leu Pro Cys Pro Pro Arg Phe			
610	615	620	
Thr Gly Ser Gln Pro Phe Gly Arg Gly Val Glu His Ala Met Ala Asn			
625	630	635	640
Lys Gln Val Cys Lys Pro Arg Asn Pro Cys Thr Asp Gly Thr His Asp			
645	650	655	
Cys Asn Lys Asn Ala Lys Cys Asn Tyr Leu Gly His Tyr Ser Asp Pro			
660	665	670	
Met Tyr Arg Cys Glu Cys Lys Pro Gly Tyr Ala Gly Asn Gly Ile Ile			
675	680	685	
Cys Gly Glu Asp Thr Asp Leu Asp Gly Trp Pro Asn Glu Asn Leu Val			
690	695	700	
Cys Val Ala Asn Ala Thr Tyr His Cys Lys Lys Asp Asn Cys Pro Asn			
705	710	715	720
Leu Pro Asn Ser Gly Gln Glu Asp Tyr Asp Lys Asp Gly Ile Gly Asp			
725	730	735	
Ala Cys Asp Asp Asp Asp Asn Asp Lys Ile Pro Asp Asp Arg Asp			
740	745	750	
Asn Cys Pro Phe His Tyr Asn Pro Ala Gln Tyr Asp Tyr Asp Arg Asp			
755	760	765	
Asp Val Gly Asp Arg Cys Asp Asn Cys Pro Tyr Asn His Asn Pro Asp			

770

775

780

Gln Ala Asp Thr Asp Lys Asn Gly Glu Gly Asp Ala Cys Ala Val Asp  
785 790 795 800

Ile Asp Gly Asp Gly Ile Leu Asn Glu Arg Asp Asn Cys Gln Tyr Val  
805 810 815

Tyr Asn Val Asp Gln Arg Asp Thr Asp Met Asp Gly Val Gly Asp  
820 825 830

<210> 99

<211> 2760

<212> DNA

<213> Homo sapiens

<400> 99

ccggggggcgc agccgcggc ccacctcgcc ctccctgag cggacgcctc cccgcgcgca 60  
ccggggggccc cggagaccgc ctccccgct ccgaacgcac gggccggc cccggcgagg 120  
tgcctgaacg ctacccgagc tgccggggg ctccccgggt gagtgcgtca gccccaggcc 180  
cgccctgcctc cacaggctcg ggcaatggag accccgcggcc gccccggccc cttgaccctg 240  
cctcaccctc caccggccgt ggcgcacg acctccgacc ccgcgtccgc cccgctcgca 300  
gccccggctcg cagccggct cggccggcct cacccggc gggttccgca ctccctttcc 360  
cgccgtcctg ctcctctcg ccttctccct caataggcgc ctagcacccct gagggggcta 420  
caccatccatc agacgaagcg ggcgttaacgt gactgactaa ctaaccaatc caaagtctca 480  
atctccctga gagggggcga gctgtacccgg gccagccctc gccggcatt ggtgatcgac 540  
ctcagggttgc cagggggcggt gcccattacac ggattggaga gggcagcgat gggccggagt 600  
tcaagctccg attagtcgc gctccgtggc gggcttggcg attggacgccc ggcgtctgtca 660  
gccccggcgcg gaccggggcg gggccggcgg tgcccccggc tggggcgagg gccgggtgcg 720  
ggcccgctgg ccgagaggct gaggccggcgt catgtctcc gagggtgtccg cgcgcgcga 780  
cgccaaagaag ctggtcgcgt ccccgagcgg cctgcgcgtg gtgcccgaac accgcgcctt 840  
cgaaagcccg ttccggctgg aggagccgc gttggccccc gacaaggagg tgggtgtatg 900  
cagtgtgcac ccaagtttga ctttctcacc agaaagcacc actgtgcgcg ctggggaaag 960  
tgcttcgtcg acaggtgtcg cagccagaag gtgcgcgtgc ggcgcgttg ctttgtggac 1020  
cccggtcggc agtgcgcgga gtgcgcctg gtgtccctca aggaggcgga gttctacgac 1080  
aagcagctca aagtgcctt gaggcgagcc accttctcg tcacgtttgg aaactcagag 1140  
aaacctgaaa ctatgacttgc tcgtctttcc aataaccaga gataacttgg tctggatgg 1200  
gacagccact atgaaatcga aattgtacac atttcacccg tgcagatct cacagaaggc 1260  
ttccctctcg gagaaaaaaga cattcacgct tacaccagcc tccggggggag ccagccctg 1320  
tctgaaggag gcaacgcacg ggccacaggc atgttctgc agtatacagt gccggggacg 1380  
gagggtgtga cccagctgaa gctgacagtg gtggaggacg tgactgtgg caggaggcag 1440  
gccccggcgt ggctagtgtat ctcaggctg ccaagctccct ctatgaatct cgggaccagt 1500  
aactctacgt ggggctgagc ttggagttac tgcgttgcacc aggactgagt cgcttggaaac 1560  
agcagagccct gctccttgcg taccacaggg attaattctg cttgtgtcg gaaatgcac 1620  
tcactcatgt atttggagaa acaggagtgt tcacttatct agtgcataat gttcacagtt 1680  
tattaatgtt ttaaacagct tcatgttttta gaattttgtt attgtcaata cttaaatttggg 1740  
ggggggagag actgagctac actactgcta aactatttt agcataat ataccatttt 1800  
tatgagttcg caggtctact agaaggtttgc ggccttgc tattcatttc attaattct 1860  
tccacagaac cagtttggc agtaggaact caggcttgcgt gtctgcgtg gagcctgttc 1920  
gcctctaata gccagtttac agcacttgc ttagcctgtt tcacagactt gtccacttac 1980  
cttgtcaacta atttggggct tctggcgtgt gaggatccct ttgatacttc accaagggg 2040  
acgtgggggc tttgtgtttt gtactttca ctcactattt cactttatata agatgactgt 2100  
acagcaattt gatatataag cttatgatta aaaacttta tgaacatacg gacaaggcct 2160  
cgcccttcctg tgcgttgcacc acctgaaccc tcgtgccaca ggcgttgc ggtccagaaa 2220  
gaagactcac agccgcggcgg gtcggacggg ttatgtgc acatttacac agcgtcagca 2280  
gcgtctggc tggcagccgc catgtctccgt tggcggcgt gctctacaag ggcgttact 2340

tttcttcacc acactatgt a cagtcagtgc tccaaaggta tgggctacag tgctgcatca 2400  
gtgagtctgt acacacattt ttacataat tacacacgac tcatacatga aaaatagac 2460  
ctaaggccct gtatTTTaaat gagaaaaaaa aaattccaa catagttcg gtatTTTga 2520  
atggtctagt caaaaaatac ttttggata taaaaaggct gtacgtacaa ttcacacctc 2580  
agtgaagcgc cctccttgc ttgaggctgg gcctgggaca aagggtggct cacagccagc 2640  
ccaggcaggg agatcggcag agaggggtgg cccctgaccc cagtcctct gccccagctg 2700  
ctgctccttg gtggcggccc ctcctgacac caggcgtctg ccatccttca ggcacccaaac 2760

<210> 100  
<211> 206  
<212> PRT  
<213> Homo sapiens

<400> 100  
Met Gln Cys Asp Ala Lys Phe Asp Phe Leu Thr Arg Lys His His Cys  
1 5 10 15  
Arg Arg Cys Gly Lys Cys Phe Cys Asp Arg Cys Cys Ser Gln Lys Val  
20 25 30  
Pro Leu Arg Arg Met Cys Phe Val Asp Pro Val Arg Gln Cys Ala Glu  
35 40 45  
Cys Ala Leu Val Ser Leu Lys Glu Ala Glu Phe Tyr Asp Lys Gln Leu  
50 55 60  
Lys Val Leu Leu Ser Gly Ala Thr Phe Leu Val Thr Phe Gly Asn Ser  
65 70 75 80  
Glu Lys Pro Glu Thr Met Thr Cys Arg Leu Ser Asn Asn Gln Arg Tyr  
85 90 95  
Leu Phe Leu Asp Gly Asp Ser His Tyr Glu Ile Glu Ile Val His Ile  
100 105 110  
Ser Thr Val Gln Ile Leu Thr Glu Gly Phe Pro Pro Gly Glu Lys Asp  
115 120 125  
Ile His Ala Tyr Thr Ser Leu Arg Gly Ser Gln Pro Ala Ser Glu Gly  
130 135 140  
Gly Asn Ala Arg Ala Thr Gly Met Phe Leu Gln Tyr Thr Val Pro Gly  
145 150 155 160  
Thr Glu Gly Val Thr Gln Leu Lys Leu Thr Val Val Glu Asp Val Thr  
165 170 175  
Val Gly Arg Arg Gln Ala Val Ala Trp Leu Val Ile Cys Arg Leu Pro  
180 185 190  
Ser Ser Ser Met Asn Leu Gly Thr Ser Asn Ser Thr Trp Gly  
195 200 205

<210> 101  
<211> 673

<212> DNA

<213> Homo sapiens

<400> 101

gttccaacta ttttgtccgc ccacaggaat tcgcccgg tttatgcagt gtgacgcca 60  
gtttgacttt ctcaccagaa agcaccactg tcgcccgtgc gggaaagtgt tctgcgcac 120  
gtgctgcagc cagaagggtgc cgctgcggcg catgtgcctt gtggaccccg tgcggcagt 180  
cgccggagtgc gccctgggt ccctcaagga ggcggagttc tacgacaagc agctcaaagt 240  
gctcctgagc ggagccaccc ttctcgac gtttggaaac tcagagaaac ctgaaactat 300  
gacttgcgt ctttccaata accagagata cttgtttctg gatggagaca gccactatga 360  
aatcgaaatt gtacacattt ccaccgtgca gatccctcaca gaaggcttc ctcctggaga 420  
aaaagacatt cacgcttaca ccagcctccg ggggagccag cctgcctctg aaggaggcaa 480  
cgcacaggcc acaggcatgt tcctgcagta tacagtgcgg gggacggagg gtgtgaccca 540  
gctgaagctg acagtgggtgg aggacgtgac tgtggcagg aggccaggccg tggcgtggct 600  
atggccatg cacaaggctg ccaagctcct ctatgaatct cgggaccagt aactctacgt 660  
ggggctgagc ttg 673

<210> 102

<211> 202

<212> PRT

<213> Homo sapiens

<400> 102

Met Gln Cys Asp Ala Lys Phe Asp Phe Leu Thr Arg Lys His His Cys  
1 5 10 15

Arg Arg Cys Gly Lys Cys Phe Cys Asp Arg Cys Cys Ser Gln Lys Val  
20 25 30

Pro Leu Arg Arg Met Cys Phe Val Asp Pro Val Arg Gln Cys Ala Glu  
35 40 45

Cys Ala Leu Val Ser Leu Lys Glu Ala Glu Phe Tyr Asp Lys Gln Leu  
50 55 60

Lys Val Leu Leu Ser Gly Ala Thr Phe Leu Val Thr Phe Gly Asn Ser  
65 70 75 80

Glu Lys Pro Glu Thr Met Thr Cys Arg Leu Ser Asn Asn Gln Arg Tyr  
85 90 95

Leu Phe Leu Asp Gly Asp Ser His Tyr Glu Ile Glu Ile Val His Ile  
100 105 110

Ser Thr Val Gln Ile Leu Thr Glu Gly Phe Pro Pro Gly Glu Lys Asp  
115 120 125

Ile His Ala Tyr Thr Ser Leu Arg Gly Ser Gln Pro Ala Ser Glu Gly  
130 135 140

Gly Asn Ala Gln Ala Thr Gly Met Phe Leu Gln Tyr Thr Val Pro Gly  
145 150 155 160

Thr Glu Gly Val Thr Gln Leu Lys Leu Thr Val Val Glu Asp Val Thr  
165 170 175

Val Gly Arg Arg Gln Ala Val Ala Trp Leu Val Ala Met His Lys Ala  
 180 185 190  
 Ala Lys Leu Leu Tyr Glu Ser Arg Asp Gln  
 195 200  
  
 <210> 103  
 <211> 234  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 103  
 Met Ser Ser Glu Val Ser Ala Arg Arg Asp Ala Lys Lys Leu Val Arg  
 1 5 10 15  
  
 Ser Pro Ser Gly Leu Arg Met Val Pro Glu His Arg Ala Phe Gly Ser  
 20 25 30  
  
 Pro Phe Gly Leu Glu Glu Pro Gln Trp Val Pro Asp Lys Glu Cys Arg  
 35 40 45  
  
 Arg Cys Met Gln Cys Asp Ala Lys Phe Asp Phe Leu Thr Arg Lys His  
 50 55 60  
  
 His Cys Arg Arg Cys Gly Lys Cys Phe Cys Asp Arg Cys Cys Ser Gln  
 65 70 75 80  
  
 Lys Val Pro Leu Arg Arg Met Cys Phe Val Asp Pro Val Arg Gln Cys  
 85 90 95  
  
 Ala Glu Cys Ala Leu Val Ser Leu Lys Glu Ala Glu Phe Tyr Asp Lys  
 100 105 110  
  
 Gln Leu Lys Val Leu Leu Ser Gly Ala Thr Phe Leu Val Thr Phe Gly  
 115 120 125  
  
 Asn Ser Glu Lys Pro Glu Thr Met Thr Cys Arg Leu Ser Asn Asn Gln  
 130 135 140  
  
 Arg Tyr Leu Phe Leu Asp Gly Asp Ser His Tyr Glu Ile Glu Ile Val  
 145 150 155 160  
  
 His Ile Ser Thr Val Gln Ile Leu Thr Glu Gly Phe Pro Pro Gly Gly  
 165 170 175  
  
 Gly Asn Ala Arg Ala Thr Gly Met Phe Leu Gln Tyr Thr Val Pro Gly  
 180 185 190  
  
 Thr Glu Gly Val Thr Gln Leu Lys Leu Thr Val Val Glu Asp Val Thr  
 195 200 205  
  
 Val Gly Arg Arg Gln Ala Val Ala Trp Leu Val Ala Met His Lys Ala  
 210 215 220  
  
 Ala Lys Leu Leu Tyr Glu Ser Arg Asp Gln  
 225 230

<210> 104  
<211> 211  
<212> PRT  
<213> Mus musculus

<400> 104  
Met Val Pro Glu His Arg Ala Phe Gly Ser Pro Phe Gly Leu Glu Glu  
1 5 10 15  
Pro Gln Trp Val Pro Asp Lys Glu Cys Pro Arg Cys Met Gln Cys Asp  
20 25 30  
Ala Lys Phe Asp Phe Ile Thr Arg Lys His His Cys Arg Arg Cys Gly  
35 40 45  
Lys Cys Phe Cys Asp Arg Cys Cys Ser Gln Lys Val Pro Leu Arg Arg  
50 55 60  
Met Cys Phe Val Asp Pro Val Arg Gln Cys Ala Asp Cys Ala Leu Val  
65 70 75 80  
Ser His Arg Glu Ala Glu Phe Tyr Asp Lys Gln Leu Lys Val Leu Leu  
85 90 95  
Ser Gly Ala Thr Phe Leu Val Thr Phe Gly Asp Ser Glu Lys Pro Glu  
100 105 110  
Thr Met Val Cys Arg Leu Ser Asn Asn Gln Arg Cys Leu Val Leu Asp  
115 120 125  
Gly Asp Ser His Arg Glu Ile Glu Ile Ala His Val Cys Thr Val Gln  
130 135 140  
Ile Leu Thr Glu Gly Phe Thr Pro Gly Ala Gly Ser Thr Leu Ala Thr  
145 150 155 160  
Gly Met Leu Leu Gln Tyr Thr Val Pro Gly Ala Glu Ala Ala Gln  
165 170 175  
Leu Arg Leu Met Ala Gly Glu Asp Ala Ser Gly Ser Lys Arg Gln Ala  
180 185 190  
Ala Ala Trp Leu Ala Ala Met His Lys Ala Thr Lys Leu Leu Tyr Glu  
195 200 205  
Ser Arg Asp Gln  
210

<210> 105  
<211> 327  
<212> PRT  
<213> Homo sapiens

<400> 105

Pro Ala Glu Arg Trp Val Ser Val Ser Ser Glu Glu Pro Arg Ala Pro  
 1 5 10 15

Val Pro Ala Ser Val Arg Ala Pro Glu Arg Pro Leu Pro Gly Leu Arg  
 20 25 30

Ser Ala Arg Arg Ala Ala Cys Arg Ala Tyr Ser Gly Pro Arg Thr Cys  
 35 40 45

Pro Ala His Leu Pro Ala Ala Arg Ser Ala Leu Arg Ala Ser Leu Ala  
 50 55 60

Ser Leu Pro Ala Thr Ala Arg Gly Leu Arg Pro Cys Leu Arg Val Arg  
 65 70 75 80

Pro Ala Pro Gln Pro Gly Pro Gly Ala Ala Leu Arg Arg Ala Arg Ala  
 85 90 95

Ala Arg Ser Pro Ala Arg Ala Gly Ala Ala Met Met Asn Arg Phe Arg  
 100 105 110

Lys Trp Leu Tyr Lys Pro Lys Arg Ser Asp Pro Gln Leu Leu Ala Arg  
 115 120 125

Phe Tyr Tyr Ala Asp Glu Glu Leu Asn Gln Val Ala Ala Glu Leu Asp  
 130 135 140

Ser Leu Asp Gly Arg Lys Asp Pro Gln Arg Cys Thr Leu Leu Val Ser  
 145 150 155 160

Gln Phe Arg Ser Cys Gln Asp Asn Val Leu Asn Ile Ile Asn Gln Ile  
 165 170 175

Met Asp Glu Cys Ile Pro Gln Asp Arg Ala Pro Arg Asp Phe Cys Val  
 180 185 190

Lys Phe Pro Glu Glu Ile Arg His Asp Asn Leu Ala Gly Gln Leu Trp  
 195 200 205

Phe Gly Ala Glu Cys Leu Ala Ala Gly Ser Ile Ile Met Asn Arg Glu  
 210 215 220

Leu Glu Ser Met Ala Met Arg Pro Leu Ala Lys Glu Leu Thr Arg Ser  
 225 230 235 240

Leu Glu Asp Val Arg Gly Ala Leu Arg Asp Gln Ala Leu Arg Asp Leu  
 245 250 255

Asn Thr Tyr Thr Glu Lys Met Arg Glu Ala Leu Arg His Phe Asp Val  
 260 265 270

Leu Phe Ala Glu Phe Glu Leu Ser Tyr Val Ser Ala Met Val Pro Val  
 275 280 285

Lys Ser Pro Arg Glu Tyr Tyr Val Gln Gln Glu Val Ile Val Leu Phe  
 290 295 300

Cys Glu Thr Val Glu Arg Ala Leu Asp Phe Gly Tyr Leu Thr Gln Asp  
305 310 315 320

Met Ile Asp Asp Tyr Glu Pro  
325

<210> 106  
<211> 173  
<212> PRT  
<213> Homo sapiens

<400> 106  
Leu His His Lys Trp Leu Asn Ser His Ser Gly Arg Pro Ser Thr Thr  
1 5 10 15

Ser Ser Pro Asp Gln Pro Ser Arg Ser His Leu Asp Asp Asp Gly Met  
20 25 30

Pro Val Tyr Thr Asp Thr Ile Gln Gln Arg Leu Arg Gln Ile Glu Ser  
35 40 45

Gly His Gln Gln Glu Val Glu Thr Leu Lys Lys Gln Val Gln Glu Leu  
50 55 60

Lys Ser Arg Leu Glu Ser Gln Tyr Leu Thr Ser Ser Leu Arg Phe Asn  
65 70 75 80

Gly Asp Phe Gly Asp Glu Val Met Thr Arg Trp Leu Pro Asp His Leu  
85 90 95

Ala Ala His Cys Tyr Ala Cys Asp Ser Ala Phe Trp Leu Ala Ser Arg  
100 105 110

Lys His His Cys Arg Asn Cys Gly Asn Val Phe Cys Ser Ser Cys Cys  
115 120 125

Asn Gln Lys Val Pro Val Pro Ser Gln Gln Leu Phe Glu Pro Ser Arg  
130 135 140

Val Cys Lys Ser Cys Tyr Ser Ser Leu His Pro Thr Ser Ser Ser Ile  
145 150 155 160

Asp Leu Glu Leu Asp Lys Pro Ile Ala Ala Thr Ser Asn  
165 170

<210> 107  
<211> 597  
<212> PRT  
<213> Mus musculus

<400> 107  
Met Ala Thr Asp Asp Lys Ser Ser Pro Thr Leu Asp Ser Ala Asn Asp  
1 5 10 15

Leu Pro Arg Ser Pro Ala Ser Pro Ser His Leu Thr His Phe Lys Pro

20	25	30
Leu Thr Pro Asp Gln Asp Glu Pro Pro Phe Lys Ser Ala Tyr Ser Ser		
35	40	45
Phe Val Asn Leu Phe Arg Phe Asn Lys Glu Arg Gly Glu Gly Gly Gln		
50	55	50
Gly Glu Gln Gln Ser Pro Ser Ser Ser Trp Ala Ser Pro Gln Ile Pro		
65	70	75
Ser Arg Thr Gln Ser Val Arg Ser Pro Val Pro Tyr Lys Lys Gln Leu		
85	90	95
Asn Glu Glu Leu His Arg Arg Ser Ser Val Leu Glu Asn Thr Leu Pro		
100	105	110
His Pro Gln Glu Ser Thr Asp Ser Arg Arg Lys Ala Glu Pro Ala Cys		
115	120	125
Gly Gly His Asp Pro Arg Thr Ala Val Gln Leu Arg Ser Leu Ser Thr		
130	135	140
Val Leu Lys Arg Leu Lys Glu Ile Met Glu Gly Lys Ser Gln Asp Ser		
145	150	155
Asp Leu Lys Gln Tyr Trp Met Pro Asp Ser Gln Cys Lys Glu Cys Tyr		
165	170	175
Asp Cys Ser Glu Lys Phe Thr Thr Phe Arg Arg Arg His His Cys Arg		
180	185	190
Leu Cys Gly Gln Ile Phe Cys Ser Arg Cys Cys Asn Gln Glu Ile Pro		
195	200	205
Gly Lys Phe Met Gly Tyr Thr Gly Asp Leu Arg Ala Cys Thr Tyr Cys		
210	215	220
Arg Lys Ile Ala Leu Ser Tyr Ala His Ser Thr Asp Ser Asn Ser Ile		
225	230	235
240		
Gly Glu Asp Leu Asn Ala Leu Ser Asp Ser Thr Cys Ser Val Ser Ile		
245	250	255
Leu Asp Pro Ser Glu Pro Arg Thr Pro Val Gly Ser Arg Lys Ala Ser		
260	265	270
Arg Asn Ile Phe Leu Glu Asp Asp Leu Ala Trp Gln Ser Leu Ile His		
275	280	285
Pro Asp Ser Ser Asn Ser Ala Leu Ser Thr Arg Leu Val Ser Val Gln		
290	295	300
Glu Asp Ala Gly Lys Ser Pro Ala Arg Asn Arg Ser Ala Ser Ile Thr		
305	310	315
320		
Asn Leu Ser Leu Asp Arg Ser Gly Ser Pro Met Val Pro Ser Tyr Glu		

325	330	335
Thr Ser Val Ser Pro Gln Ala Asn Arg Asn Tyr Ile Arg Thr Glu Thr		
340	345	350
Thr Glu Asp Glu Arg Lys Ile Leu Leu Asp Ser Ala Gln Leu Lys Asp		
355	360	365
Leu Trp Lys Lys Ile Cys His His Thr Ser Gly Met Glu Phe Gln Asp		
370	375	380
His Arg Tyr Trp Leu Arg Thr His Pro Asn Cys Ile Val Gly Lys Glu		
385	390	395
Leu Val Asn Trp Leu Ile Arg Asn Gly His Ile Ala Thr Arg Ala Gln		
405	410	415
Ala Ile Ala Ile Gly Gln Ala Met Val Asp Gly Arg Trp Leu Asp Cys		
420	425	430
Val Ser His His Asp Gln Leu Phe Arg Asp Glu Tyr Ala Leu Tyr Arg		
435	440	445
Pro Leu Gln Ser Thr Glu Phe Ser Glu Thr Pro Ser Pro Asp Ser Asp		
450	455	460
Ser Val Asn Ser Val Glu Gly His Ser Glu Pro Ser Trp Phe Lys Asp		
465	470	475
Ile Lys Phe Asp Asp Ser Asp Thr Glu Gln Ile Ala Glu Glu Gly Asp		
485	490	495
Asp Asn Leu Ala Lys Tyr Leu Val Ser Asp Thr Gly Gly Gln Gln Leu		
500	505	510
Ser Ile Ser Asp Ala Phe Ile Lys Glu Ser Leu Phe Asn Arg Arg Val		
515	520	525
Glu Glu Lys Ser Lys Glu Leu Pro Phe Thr Pro Leu Gly Trp His His		
530	535	540
Asn Asn Leu Glu Leu Leu Arg Glu Glu Asn Glu Glu Lys Gln Ala Met		
545	550	555
Glu Arg Leu Leu Ser Ala Asn His Asn His Met Met Ala Leu Leu Gln		
565	570	575
Gln Leu Leu Gln Asn Glu Ser Leu Ser Ser Ser Trp Arg Asp Ile Ile		
580	585	590
Val Ser Leu Val Cys		
595		

<210> 108

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide primer

<400> 108  
tgacctgatg atatgtgcct gtag 24

<210> 109  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide primer

<400> 109  
ttatagtacg agcaagaact ttgg 24

<210> 110  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide primer

<400> 110  
ttattgacag tttatcctgc cgcacct 27

<210> 111  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide primer

<400> 111  
aactactcgt gaggctgagg caggag 26

<210> 112  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide primer

<400> 112  
caatccttgc gtgtccttgc agtc

24

<210> 113  
<211> 27  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:  
      oligonucleotide primer

<400> 113  
agcaagcaaa atcaggatgt tttcctc

27

<210> 114  
<211> 24  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:  
      oligonucleotide primer

<400> 114  
caatccttgc gtgtccttgc agtc

24

<210> 115  
<211> 27  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:  
      oligonucleotide primer

<400> 115  
agcaagcaaa atcaggatgt tttcctc

27

<210> 116  
<211> 24  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:  
      oligonucleotide primer

<400> 116  
gctacaccttca ccacaccttg ctgt

24

<210> 117	
<211> 27	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence:	
oligonucleotide primer	
<400> 117	
aagtgcagac ctataggcca atacagg	27
<210> 118	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence:	
oligonucleotide primer	
<400> 118	
agaacccaag gctccctgga tt	22
<210> 119	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence:	
oligonucleotide primer	
<400> 119	
catggaattta ttcaaatttg ctctg	25
<210> 120	
<211> 21	
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oligonucleotide primer		
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oligonucleotide primer		
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<210> 125		
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oligonucleotide primer		
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tctgtggta aatcctctt cacatg

26

<210> 126  
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oligonucleotide primer

<400> 126  
agggccacat catgtatgtt ag

22

<210> 127  
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oligonucleotide primer

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ggtgaacaga acctacctgt tg

22

<210> 128  
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oligonucleotide primer

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22

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27

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oligonucleotide primer

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22

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26

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22

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<210> 147  
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<400> 147  
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<210> 148  
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oligonucleotide primer

<400> 148  
gggaacggca accagaaac 19

<210> 149  
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<212> DNA  
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oligonucleotide primer

<400> 149  
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<210> 150  
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oligonucleotide primer

<400> 150  
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<210> 151  
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oligonucleotide primer

<400> 151  
tgacctggat atttggattc tg 22

<210> 152

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<400> 152  
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<210> 153  
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<400> 153  
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<210> 154  
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<400> 154  
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<210> 155  
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<210> 156  
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<400> 156  
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<400> 157  
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<210> 158  
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<400> 158  
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<210> 159  
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<400> 159  
atggaatccc tggccctgtc taatg

25